

February 1997

# FORCE STRUCTURE

## Army Support Forces Can Meet Two-Conflict Strategy With Some Risks



G A O

**75** years  
1921 - 1996

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United States  
General Accounting Office  
Washington, D.C. 20548

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**National Security and  
International Affairs Division**

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February 28, 1997

The Honorable Strom Thurmond  
Chairman  
The Honorable Carl Levin  
Ranking Minority Member  
Committee on Armed Services  
United States Senate

The Honorable Floyd D. Spence  
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Committee on National Security  
House of Representatives

This report discusses how the Army determines its support force requirements, and the results of its most recent process for allocating support forces, known as Total Army Analysis 2003. It also discusses the Army's progress to streamline its infrastructure or institutional force structure. We are sending this report to you in response to a provision of the fiscal year 1996 National Defense Authorization Act requiring us to review these issues and report our results to Congress by March 1. The information in this report should be useful to your Committees in their deliberations on the future size and composition of the Army. This report contains recommendations to the Secretary of the Army.

We are sending copies of this report to the Secretary of Defense, the Secretary of the Army, and the Director, Office of Management and Budget. Copies will also be made available to others on request.

If you or your staff have any questions on this report, please call me on (202) 512-3504. Major contributors to this report are listed in appendix VI.

Richard Davis  
Director, National Security  
Analysis

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# Executive Summary

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## Purpose

In the last 2 fiscal years, the Army has drawn down its active military forces from 540,000 to 495,000. A key issue that has evolved is whether the Army's active end strength should be reduced to achieve savings to help pay for force modernization. In 1996, Congress established an active Army military personnel end strength floor of 495,000 out of concern that further downsizing would impair the Army's ability to support the national military strategy of responding to two nearly simultaneous major regional conflicts (MRC), as well as deploying to operations other than war (OOTW). As the first of a series of congressionally required reviews of Army end strength issues, GAO reviewed (1) the extent to which the Army's process for assessing its active and reserve support forces resulted in sufficient support force structure to meet the requirements of the two-MRC scenario and OOTWS; (2) whether the Army's streamlining initiatives have identified opportunities to reduce Army personnel resources devoted to institutional functions; and (3) the feasibility of reducing active Army end strength, a matter Congress will review when it deliberates future Army end strength authorizations.

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## Background

Most of the active Army is divided between operational (63 percent) and institutional forces (25 percent), with the remainder of the force in temporary status, such as students (12 percent). Historically, these percentages have remained relatively constant. Operational forces are generally those forces that deploy to MRCs and other military operations. The operational force is further divided into the 10 war-fighting divisions and 2 armored cavalry regiments, and the deployable combat support and combat service support units needed to sustain this force in wartime. Combat support includes such specialties as chemical, engineering, military intelligence, and military police, while combat service support includes specialties such as transportation, medical, finance, quartermaster, and ordnance. The institutional force, called the Table of Distribution and Allowances (TDA) force, provides generally nondeployable support to the Army infrastructure, including training, doctrine development, base operations, supply, and maintenance.

The Army uses different processes to determine requirements and allocate resources to each portion of the active Army. Combat forces are determined by defense guidance, which establishes the number of divisions, and Army doctrine, which establishes the number and type of forces dedicated to those divisions. The Army uses a process known as Total Army Analysis (TAA) to determine the number and types of support units needed to support the Army's combat forces and to allocate

personnel authorizations to required units. TAA results are determined biennially. For example, TAA 2003, which was completed in January 1996, projects requirements through the year 2003. Resourcing decisions made as a result of TAA are used to develop future Army budgets. Requirements for the Army's institutional forces are determined outside the TAA process and are allocated largely at the major command level.

In 1995, the Office of the Secretary of Defense (OSD), motivated by a need to identify additional funds for Army modernization, directed the Army to reduce its end strength to 475,000 by 1999 based on the potential for achieving efficiencies under the Army's Force XXI redesign initiative.<sup>1</sup> OSD projected this lower Army end strength by 1999 in the Fiscal Year 1997 Future Years Defense Program. The Future Years Defense Program is an authoritative record of current and projected force structure, costs, and personnel levels that have been approved by the Secretary of Defense. The Army was opposed to reducing its active end strength by 20,000 and was permitted to reallocate funds in its proposed budget for fiscal years 1998 through 2003 to remain at an active end strength of 495,000.

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## Results in Brief

It does not appear feasible to have a smaller active Army support force at this time because this could increase the Army's risk of carrying out current defense policy. However, new initiatives being explored by the Army regarding its combat and institutional forces could lead to a smaller active force in the future. Further, improvements in the requirements determination process for both support forces and institutional forces could provide greater assurance that the size and composition of the Army is appropriate to meet war-fighting needs.

On the basis of TAA 2003 results, the Army believes it can deploy sufficient support forces to meet the requirements of two nearly simultaneous MRCs with moderate risk. The Army's assessment of risk is based on several factors. First, because it lacks adequate active support forces and must rely on reserve forces that take more time to be readied to deploy, an estimated 79,000 support forces needed in the first 30 days would arrive late. Second, support forces needed for the second conflict would consist of only 12-percent active forces. High reliance on reserves for use in the second MRC may entail risk if the second MRC occurs without warning, or if mobilization is delayed. Third, existing active support units are short

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<sup>1</sup>The Army's initiative to redesign its combat divisions and incorporate information age technology on the battlefield is known as Force XXI. As part of Force XXI, the Army is also examining ways to streamline and re-engineer its institutional force.

another 19,200 required positions and some required support units exist only on paper.

However, TAA 2003 had some limitations and the Army's risk assessment depends largely on the assumptions and model inputs that were adopted for TAA 2003. The Army used many favorable assumptions that, although consistent with defense guidance, understated risk. For example, it assumed that forces committed to OOTWS would be immediately available to redeploy and U.S. forces would have immediate access to overseas ports and airfields. Less optimistic assumptions would have led to higher support requirements. On the other hand, the Army did not use all available resources to satisfy its unmet support force requirements, such as support forces that currently exist in the Army's eight National Guard divisions and the active Army's institutional forces, and support available from outside contractors and defense civilians. The Army could have used these personnel to meet some of its requirements for later deploying units that exist only on paper. Nonetheless, considering these assets would not solve the Army's shortage of active support forces to meet its requirements during the first 30 days of the first MRC.

The Army's recent efforts to streamline the institutional active Army by identifying better ways to organize and adopt more efficient business practices have identified up to 4,000 military positions that the Army plans to use to offset active support shortfalls. Moreover, the Army is continuing its streamlining efforts and may reduce the number of major commands, which could result in some additional force savings in the future. However, the Army's efforts to make its institutional force more efficient and potentially smaller are hampered by long-standing weaknesses in its process to determine institutional force requirements. Specifically, many of the Army's institutional requirements are not determined through an analysis of workload to include analyzing what work needs to be done based on mission and assessing how processes can be improved. Such analysis, when combined with the Army's efforts to re-engineer its overall organization through functional assessments, would help the Army determine how big its force needs to be and allocate resources efficiently toward its highest priority institutional needs.

GAO's analysis indicates that the Department of Defense (DOD) has not supported its proposal to reduce the active Army to 475,000 by 1999 with sound analysis. Neither TDA streamlining nor the Army's ongoing Force XXI combat forces redesign initiative will achieve sufficient end strength savings to permit a 20,000-cut by 1999. However, the Army might be able to

achieve efficiencies and further reduce the size of its active institutional force in the future by reducing the number of major commands and adopting workload-based requirements. Moreover, the Army's combat redesign effort may eventually reduce requirements for active combat forces by capitalizing on digital technology and more efficient logistics concepts. Other options to restructure the Army's combat forces also exist. For example, some variant of the former reserve round-out concept, perhaps at the battalion level rather than brigade level, could reduce the number of active personnel committed to combat divisions. DOD has an opportunity to explore these and other alternatives during its Quadrennial Defense Review of defense strategy and force structure mandated by the National Defense Authorization Act for Fiscal Year 1997.

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## Principal Findings

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### The Army Can Support Two MRCs With Moderate Risk

TAA is the Army's process to determine the number and types of support units it needs to execute the national military strategy and to allocate the Army's personnel authorizations, both active and reserve, among these support force requirements to minimize war-fighting risks. The Army defines war-fighting risk as

- forces needed in the first 30 days of the first MRC, which would arrive late;
- insufficient active component support forces for the second MRC;
- required units for which no personnel have been authorized or required units that exist, but have been allocated fewer positions than required; and
- the number of anticipated casualties for a given force.

Based on TAA 2003 results, the Army believes it can provide support forces for two MRCs at a moderate level of risk. However, moderate risk means that about 79,000 support forces needed in the first 30 days of the first MRC would arrive late because the Army lacks sufficient numbers of active support forces to meet its requirements and must rely on reserve forces that generally require more than 30 days to mobilize and deploy. Late support forces represent 30 percent of the 260,000 total authorized Army force needed during this time period, and 42 percent of the Army support forces required. DOD officials believe that even if it were possible to replace reservists with active support personnel during the first 30 days, some forces would still arrive late due to strategic lift constraints during that time frame.

The Army also found that support forces required for the second MRC will consist of only about 12 percent of the active forces compared with 47 percent in the first MRC. The risk of late arrival would apply here if mobilization of reserve forces was delayed. In addition, existing active units have been authorized 19,200 fewer positions than Army wartime needs require because total Army requirements exceed authorized personnel. Also, units required by Army doctrine totaling 58,400 support positions were not allocated any personnel and exist only on paper. The Army estimates that support from host nations could meet over 14,000 of this shortfall, reducing the Army's shortage to about 44,000. The Army also plans to implement an option developed by the Army National Guard Division Redesign Study to convert 42,700 Army National Guard combat division positions to required support positions. This option would eliminate most of the remaining shortage, but will cost up to \$2.8 billion and could take many years to complete. Finally, TAA modeled risk in terms of expected casualties. (Casualty numbers are classified.)

### Some Modeling Assumptions Understated Support Requirements

During TAA, many of the Army's key assumptions in modeling the two MRCs were identical or similar to assumptions cited in defense guidance. Some of these assumptions were favorable; that is, they minimized risk to U.S. forces. If less favorable assumptions were used, force requirements would be even greater. For example, TAA 2003 assumed

- immediate access to all ports and airfields in the theater of operations,
- rapid decision-making by the national command authorities to mobilize reserve forces and activate the Civil Reserve Air Fleet, and
- limited use of chemical weapons employed against U.S. forces.

Support force requirements also would have been higher had the Army considered support force requirements for coalition partners.

Also, TAA 2003 requirements do not adequately reflect the U.S. role in OOTWS. The Army bases its force structure on fighting two MRCs and assumes those forces will be adequate to support OOTWS. This is consistent with defense guidance. As a result, the Army assumed that it could extract as many as 15,000 troops engaged in an OOTW and redeploy them so that they would be available for the early phases of an MRC. Commanders in Chief of the European, Central, and Atlantic Commands, as well as some Army officials, are concerned that not allowing for delays associated with the extraction and redeployment of these forces, as well as a degradation in capability from OOTWS is unrealistic. However, unless defense guidance

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Available Support Personnel  
Were Excluded From TAA  
Process

changes, the Army has no plans to change its approach to OOTWS in TAA 2005, which is now underway.

TAA does not include all available personnel in arriving at its resourcing decisions, missing opportunities to mitigate risk. For example, the Army did not include support forces in the eight Army National Guard divisions that the Army does not envision using during a two-conflict scenario. In 1995, GAO recommended that as part of TAA 2003, the Army identify the specific unfilled support requirements that could be met using the support forces embedded in these divisions and develop a plan to employ this capability.<sup>2</sup> Army officials indicated that the Army would use these personnel if needed, but to date, they have not been considered in the TAA process. The Army also did not include the potential use of TDA military personnel (with the exception of medical forces) or defense civilians, even though, in some instances, these personnel can and do deploy, sometimes on very short notice. Finally, TAA did not determine how much of the Army's requirement could be met through the Logistics Civil Augmentation Program, which the Army has been using to provide logistical and construction support to overseas operations. However, most of the above personnel would not be available in the first 30 days of the first MRC. Therefore, the Army will not be able to rely on them to meet its early deployment needs.

TAA is an analytically rigorous process that relies on extensive modeling and the judgment of senior Army officials to derive the composition of the Army's support force. However, some aspects of TAA's methodology could be improved. For example, not all TAA model inputs were scrutinized to ensure they were free from error; the process does not easily accommodate changes that occur during its 2-year implementation cycle; and senior leaders do not prioritize deficiencies that remain and develop action plans to mitigate risk. In addition, TAA models are run in the early stages of the process using the required force structure to fight the war. The Army does not rerun its models at the conclusion of the requirements determination phase to further assess how mobility limitations affect risk.

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<sup>2</sup>Force Structure: Army National Guard Divisions Could Augment Wartime Support Capability (GAO/NSIAD-95-80, Mar. 2, 1995).

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**The Army Plans to Eliminate Some Institutional Military Positions but Is Constrained by a Weak Requirements Process**

About 25 percent of the Army's active positions are allocated to the Army's institutional force. However, long-standing weaknesses in the institutional force requirements determination process leave the Army unable to ensure that military personnel are being used efficiently and assess what risks would be assumed by eliminating TDA positions. Also, allocating positions based on available budgets, without defining workload requirements, leads to across-the-board cuts that reduce funds available to all commands irrespective of relative need. Senior Army officials acknowledged that the Army's limited progress in defining TDA in terms of workload remains a weakness, and GAO found varying levels of compliance with workload-based standards at the major commands that GAO contacted. Senior Army officials are taking steps to promote workload-based requirements by increasing its review of major commands' requirements determination processes and establishing a methodology to analyze what work needs to be done based on mission and how to improve processes through better methods, benchmarking, capital investment, automation, and improved facilities. The Army is also pilot testing an automated system to collect and analyze workload information and monitor efficiency. However, the long-standing weakness with the Army's process, despite numerous efforts to improve it, suggest that a higher level of reporting and oversight may be warranted. The Army has not reported its historic lack of compliance with its workload-based allocation policy as a material weakness under the Federal Managers' Financial Integrity Act (P.L. 97-255). Policy implementing the act requires agencies to report material weaknesses that significantly weaken safeguards against waste.

The Army could potentially transfer up to 4,000 authorized positions from its institutional force to its support force as a result of its initial institutional streamlining initiatives and some recent policy decisions. TAA 2003 had anticipated shifting 2,000 of those positions to offset unmet support requirements. Army officials said that the remaining positions will also be transferred to fill support force shortfalls, but they could not specify which units. However, many of the potential transfers are based on plans that have not been finalized and cannot be counted on with certainty.

Some potential to further reduce institutional forces may exist but is difficult to quantify. As part of its continuing redesign effort, the Army is evaluating several options to reduce the number of major commands and align their responsibilities according to core processes such as training and requirements development. These options are intended to eliminate duplication, establish clearer lines of authority, and streamline resource

management, and could result in fewer TDA positions. However, such efforts will be weakened without a requirements determination process based on workload. Such a process, when combined with the Army's efforts to re-engineer its overall organization through functional assessments, would help the Army allocate resources efficiently toward its highest priority institutional needs.

The Army must also consider legislative, regulatory, and budgetary constraints in its efforts to streamline the institutional Army. These actions can influence the size and composition of the institutional Army force, but are outside the Army's span of control. For example, although GAO has identified some military positions that could be converted to generally less expensive civilian positions,<sup>3</sup> DOD's planned civilian drawdown may make such conversions difficult to implement. Further, commanders are reluctant to replace military personnel with civilian personnel because military personnel are funded from the Army's centralized military personnel account, while civilians are funded from the command's operations and maintenance account. This reluctance stems from the fact that operations and maintenance funds are more likely to be cut and result in insufficient funds to hire civilian replacements. Finally, by 2001, 37 percent of the Army's TDA positions will be controlled by either legislative mandate, DOD directive, or other agencies. For example, about 5,000 TDA military personnel are required for positions in joint organizations such as OSD and the war-fighting commands' headquarters.

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### **A Smaller Active Army Support Force Does Not Appear Feasible at This Time, but a Smaller Combat and Institutional Force May Be Possible in the Future**

OSD did not support its plan to reduce the Army's active end strength with detailed analysis. OSD's March 1995 directive to reduce the Army to 475,000 by 1999 cited the Army's Force XXI redesign initiative as a basis for the decrease. However, the results of the Army's Force XXI redesign of its combat forces will not be known for years, and this initiative is not specifically intended to identify how to make the Army smaller. Although the institutional force redesign component of Force XXI has identified a potential to reduce up to 4,000 active military positions, the Army plans to use these savings to meet existing active support force shortfalls identified in TAA 2003. Further, OSD's recently completed assessment of TAA 2003 did not examine active Army end strength issues, assess the risk associated with different end strengths, or justify force reductions. OSD believes the Army's overall operational force requirements may be overstated based on its analysis of selected model inputs and the results of a recent war game

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<sup>3</sup>DOD Force Mix Issues: Greater Reliance on Civilians in Support Roles Could Provide Significant Benefits (GAO/NSIAD-95-5, Oct. 19, 1994).

and has recommended that the Army further review issues related to casualty estimates, fuel consumption, and host nation support. These studies are ongoing.

Options may exist to reduce active Army end strength if the Army were to restructure its active combat and institutional forces to achieve efficiencies and reap the benefits of new technology. TDA streamlining may identify additional opportunities to reduce active TDA personnel by reducing the number of major commands, while broader use of workload-based requirements could ensure that military personnel are used efficiently. Force XXI's emphasis on digital technology and more efficient logistics practices may result in smaller combat divisions in the future. Other options to restructure combat forces include reassessing the mix of heavy and light divisions and assigning reserve forces a role in later deploying active divisions. For example, as a result of the Bottom-Up Review and the Army's experience in Desert Storm, the Army discontinued its use of reserve component round-up or round-out brigades. However, options may exist to adopt some variant of this concept, such as integrating reserve forces at the battalion level. The upcoming Quadrennial Defense Review, mandated by the National Defense Authorization Act for Fiscal Year 1997, tasks DOD to examine a wide range of issues that could impact future Army end strength, including changes to the national military strategy and force structure.

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## Recommendations

To improve TAA's ability to accurately project war-fighting requirements and allocate the Army's personnel resources, GAO recommends that the Secretary of the Army

- reexamine key model inputs to ensure they are accurate and consistent with war-fighting scenarios;
- perform analysis to determine how multiple OOTW support force requirements might differ from support force requirements based on two MRCs and bring any variances to the attention of the Secretary of Defense so that he can consider them in developing defense guidance;
- perform sensitivity analyses on significant model inputs, assumptions, and resourcing decisions to determine their impacts on war-fighting risk. For example, although the Army used assumptions established by defense guidance, determining the implications of less favorable conditions, such as delayed call-up of reserves, would provide the Army with additional information on which to base its assessment of risk;

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- rerun TAA models with the required force to assess the impact of force size on mobility requirements; and
  - determine how support units resident within the eight National Guard Divisions, TDA military personnel, contractor personnel, and DOD civilians can be used to fill some support force requirements.

To improve the management and allocation of personnel resources to the institutional Army, GAO also recommends that the Secretary of the Army

- report to the Secretary of Defense the Army's long-standing problem with implementing workload-based analysis as a material weakness under the Federal Managers' Financial Integrity Act to maintain visibility of the issue and ensure action is taken and
- closely monitor the military positions the Army plans to save as the result of Force XXI initiatives and have a contingency plan in place in the event that these savings do not materialize.

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## Agency Comments

DOD generally agreed with the report, fully concurring with six of the recommendations and partially concurring with one. DOD noted that the Army has already planned some actions to resolve issues GAO presented in a draft of this report. Specifically, the Army plans to (1) scrutinize key model inputs in preparation for TAA 2005, (2) conduct additional analyses involving OOTWS, (3) conduct sensitivity analyses and excursions in TAA 2005 beyond those required by current defense guidance, and (4) rerun TAA models with the required force to improve its analysis of risk. However, DOD only partially concurred with our recommendation to consider other personnel resources in filling its support force requirements. The Army plans to consider some types of Army National Guard Division assets to fill support force shortfalls where the capabilities are nearly a match, such as aviation assets. The Army also plans to further analyze how to use its institutional force structure to meet both OOTW and war-fighting requirements. However, DOD differs with GAO on recognizing civilian contractor personnel in TAA. The Army believes that while contractor personnel enhance the Army's capabilities, they should not be considered an available resource in TAA since contractor personnel are not funded in the outyears of the Program Objective Memorandum. The Army also expressed concern about its ability to provide security to contractors in an MRC environment. Because contractor personnel have historically been used by the Army to provide support in many different types of overseas environments, both OOTWS and MRCS, GAO believes that, as a minimum, the Army could treat contractor personnel in the same way it treats host

nation support—as an offset to unmet requirements. The Army can make assumptions concerning the funding of the Logistics Civil Augmentation Program, just as it makes assumptions about such issues as the availability of host nation support, the size of the active Army force, or the level of modernization of the force in future years.

DOD agreed with both of GAO's recommendations relating to the institutional Army, including GAO's recommendation that the Secretary of the Army report its long-standing problems in managing its institutional personnel as a material weakness under the Federal Managers' Financial Integrity Act. DOD's comments on a draft of this report are reprinted in appendix I.

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**Abbreviations**

AFPDA	Army's force planning data and assumptions
BUR	Bottom-Up Review
CINC	commander in chief
DOD	Department of Defense
FASTALS	Force Analysis Simulation of Theater Administration and Logistics Support
FYDP	Future Years Defense Program
MRC	major regional conflict
OOTW	operations other than war
OSD	Office of the Secretary of Defense
TAA	Total Army Analysis
TDA	Table of Distribution and Allowances
TOE	Table of Organization and Equipment
TRADOC	Training and Doctrine Command
TTHS	trainees, transients, holdees, and students

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# Introduction

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The Army has completed its drawdown of active forces in accordance with the Bottom-Up Review (BUR) force structure and defense guidance calling for a force of 495,000. To ensure that the Army will be able to maintain the minimum strength necessary to successfully respond to two nearly simultaneous major regional conflicts (MRC), Congress established a permanent legislative end strength floor of 495,000 in its fiscal year 1996 National Defense Authorization Act. However, the Department of Defense's (DOD) fiscal year 1997 Future Years Defense Program (FYDP)<sup>1</sup> reduced active Army end strength 20,000 below the congressionally mandated floor by 1999. A key impetus behind this plan is the concern within the Office of the Secretary of Defense (OSD) that funding the existing active Army force level of 495,000 will prevent the Army from buying the new equipment it needs to modernize the active force for the 21st century.

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## Active Army Has Been Downsized and Restructured in Accordance With the BUR

The BUR strategy called for a force of 10 active Army combat divisions and 2 active armored cavalry regiments to fight and win 2 nearly simultaneous MRCs. This force was far smaller than the Cold War Army, which comprised 18 active divisions and 770,000 personnel in fiscal year 1989, as well as the Base Force, which in fiscal year 1994, consisted of 12 active combat divisions and 540,000 active personnel.

Following the BUR, the Army reorganized its active combat division structure. Two division headquarters were eliminated, thus reducing the number of active divisions from 12 to 10 as specified in the BUR. Another significant change was that the Army discontinued its reliance on reserve component "round-up" or "round-out" units to bring the active divisions to full combat strength for wartime deployment. Instead, the Army determined that each of the remaining 10 combat divisions would comprise 3 fully active ground maneuver brigades. This decision was endorsed by the Secretary of Defense during development of the BUR out of concern that relying on reserve brigades could slow down a U.S. response to aggression. Therefore, as a result of the BUR, only two active maneuver brigades were eliminated from Army force structure—12 combat divisions with a combined total of 32 active brigades were reduced to 10 divisions with 30 active brigades. Also, the Army decided that all 10 remaining divisions would be authorized 100 percent of their wartime military personnel requirement.

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<sup>1</sup>The FYDP is an authoritative record of current and projected force structure, costs, and personnel levels that have been approved by the Secretary of Defense.

Overall, the reduction in forces, when combined with the force reductions resulting from the withdrawal of 20,000 military personnel from Europe between fiscal years 1994 and 1995, brought the force level down to within 10,000 of the fiscal year 1996 end strength goal of 495,000. The remaining personnel reductions came from the institutional portions of the active Army. No cuts were made in “non-divisional” level support forces that would deploy with combat divisions,<sup>2</sup> since the Army had previously found that support shortages already existed in these forces. A comparison of fiscal years 1994 and 1996 active Army force structure is shown in table 1.1.

**Table 1.1: Comparison of Fiscal Years 1994 and 1996 Active Army Force Structure**

1994	1996
<ul style="list-style-type: none"> <li>• 540,000 end strength.</li> <li>• 12 combat divisions.</li> </ul>	<ul style="list-style-type: none"> <li>• 495,000 end strength.</li> <li>• 10 combat divisions.</li> </ul>
<ul style="list-style-type: none"> <li>• 32 active maneuver brigades.</li> </ul>	<ul style="list-style-type: none"> <li>• 20,000 troops from Europe reduced from the force.</li> </ul>
<ul style="list-style-type: none"> <li>• Some divisions have fewer than three active brigades. Reserve personnel meant to fill the remainder of maneuver and divisional support requirements. These are referred to as “round-up” or “round- out” units.</li> </ul>	<ul style="list-style-type: none"> <li>• All active divisions have three maneuver brigades. After restructuring divisions, only two division headquarters and two full brigades had to be eliminated (16,000-18,000).</li> </ul>
<ul style="list-style-type: none"> <li>• Some maneuver brigades authorized at less than 100 percent of requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• All maneuver brigades authorized at 100 percent of requirements.</li> <li>• Remaining personnel reductions taken from the nondeployable Army.</li> </ul>

Source: Department of the Army Headquarters, Washington, D.C.

## Not All Army Forces Deploy

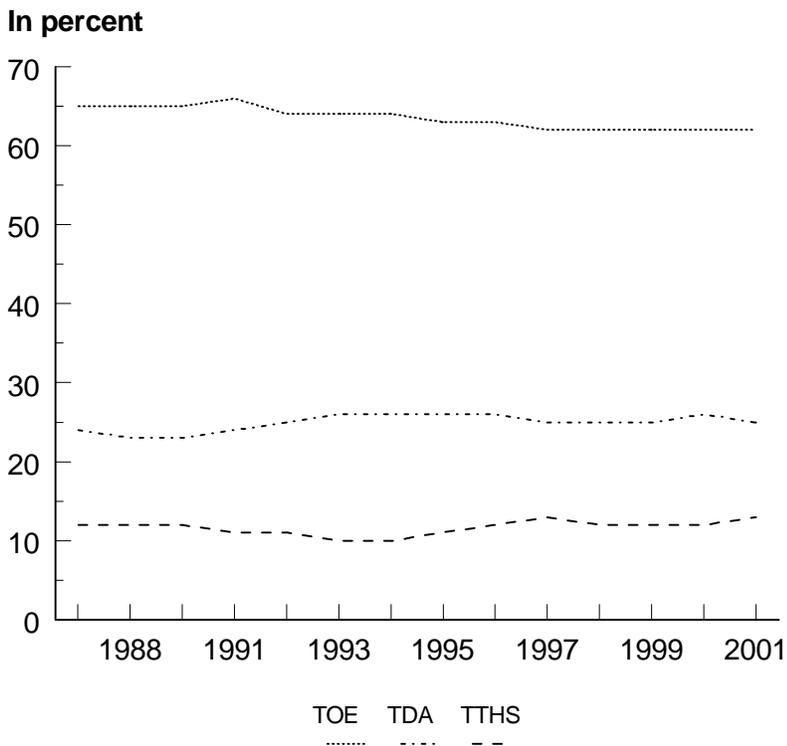
The active Army force of 495,000 is comprised of both deployable and nondeployable forces. The deployable force (63 percent) includes the combat divisions, separate brigades, armored cavalry regiments, and special forces groups, as well as the Corps level combat support and combat service support forces that would accompany them to the war fight. Taken together, these deployable operational forces are organized according to Army Tables of Organization and Equipment (TOE) and are commonly referred to as TOE forces. Combat forces are referred to as “above-the-line” TOE, and combat support/combat service support forces are referred to as “below-the-line” TOE. Combat support includes such specialties as engineering, military intelligence, chemical, and military

<sup>2</sup>A Corps provides non-divisional support for two to five combat divisions.

police, while combat service support includes specialties such as transportation, medical, finance, quartermaster, and ordnance.

The generally nondeployable portion of the Army (historically about 25 percent) is often referred to as the “institutional” force that supports the Army infrastructure by performing such functions as training, doctrine development, base operations, supply, and maintenance. These forces are organized according to Army Tables of Distribution and Allowances (TDA) and are simply referred to as TDA forces. Another 12 percent of the active Army force is in a temporary status at any given time and is referred to as “trainees, transients, holdees and students” or TTHS. These forces are also considered to be nondeployable. Historically, the percentages of the active force devoted to TOE, TDA, and TTHS have remained relatively constant. (See fig. 1.1.)

Figure 1.1: Percentage of the Army's Forces Represented by TOE, TDA, and TTHS Forces, Fiscal Years 1988 Through 2001



Source: Department of the Army Headquarters, Washington, D.C.

## Total Army Analysis Is One of Several Army Resourcing Processes

The Army uses different resourcing processes for each portion of the active Army (see table 1.2). Defense guidance specifies the number of active divisions the Army must have in its structure. The elements of these divisions are sized according to Army doctrine. The Army's 10 divisions range in size from 10,000 to 15,000 active personnel, depending on mission (e.g., light and heavy) and type of equipment. The Army uses a biennial process known as the Total Army Analysis (TAA) to determine the number of support units needed to support these combat forces, and how available personnel authorizations will be allocated to these requirements. TDA resources are allocated in a separate resource management process, primarily driven by the Army major commands but subject to some Department of the Army headquarters oversight. TTHS is essentially an

allocation rather than a managed resource, although Army policy decisions can influence its size.

**Table 1.2: Breakdown of Fiscal Year 1998 Total Army End Strength by Type and Resourcing Process**

<b>Initial resource allocation</b>	<b>Force type</b>	<b>Resourcing process<sup>a</sup></b>	<b>Active</b>	<b>National Guard<sup>b</sup></b>	<b>Reserve</b>
Directed by the Army Chief of Staff	TOE combat	Defense planning specifies 10 and two-third active divisions and 15 National Guard enhanced brigades.  Division and brigade size determined by Army doctrine.	176,000	191,000 to 203,000	2,000
	TOE support	TAA determines the Army support structure needed to execute the two-MRC scenario.	136,000	136,000 to 162,000	137,000
	TDA	Department of the Army Headquarters allocates TDA to major commands, based on their inputs.	124,000	40,000	69,000
	TTHS	Set aside.	59,000	Not applicable	Not applicable
<b>Total component end strength</b>			<b>495,000</b>	<b>367,000 to 405,000</b>	<b>208,000</b>
<b>Total Army end strength</b>				<b>1,070,000 to 1,108,000</b>	

<sup>a</sup>Because TAA 2003 provides the force structure for the 1998-2003 Army Program Objective Memorandum, the Army uses fiscal year 1998 end strength goals as the starting point to determine requirements and make resourcing decisions.

<sup>b</sup>The 1998-2003 Army Program Objective Memorandum is built on the following end strength assumptions: (1) 495,000 active end strength and (2) 575,000 reserve end strength (up to 208,000 reserve and up to 367,000 National Guard). However, Congress allows the National Guard force structure to be larger than its authorized end strength to provide the necessary organizational framework to support the division headquarters.

Source: Department of the Army Headquarters, Washington, D.C.

**TAA determines the number and types of support units needed to support war-fighting missions, regardless of whether active or reserve positions would be used to meet these requirements. The process then allocates forces from the active Army, the Army National Guard, and the Army Reserve to fill those requirements. The results of TAA 2003 were reported in**

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January 1996 and fed into the 1998-2003 Army Program Objective Memorandum.<sup>3</sup> A detailed discussion of the TAA process, assumptions, and results can be found in chapter 2. Chapter 3 discusses the TDA requirements process.

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## DOD's 1997 FYDP Reduces Army End Strength While Increasing Modernization Funding

Although Congress established a permanent active Army end strength floor of 495,000 in the National Defense Authorization Act for Fiscal Year 1996, DOD's fiscal year 1997 FYDP reduced active Army end strength below this level beginning in fiscal year 1998. Congress established a permanent end strength floor to ensure that each service, including the Army, had the minimum force necessary to fulfill the national military strategy. However, DOD may reduce forces below the floor if it notifies Congress and may also increase authorized end strength as much as 1 percent in any given fiscal year. According to the 1997 FYDP, DOD intends to keep Army military personnel appropriation dollars relatively flat from fiscal years 1995 to 2001. Because these appropriations will not sustain a force level of 495,000, DOD planned to reduce the Army's end strength by 10,000 in fiscal year 1998 and an additional 10,000 in fiscal year 1999.

DOD's 1997 FYDP increases the percentage of the Army budget devoted to procurement from 10 percent in 1995 to 16 percent by 2001. This increase is consistent with DOD's view that modernization is key to long-term readiness. In his March 1996 testimony, the Secretary of Defense said that in recent years, DOD had taken advantage of the drawdown and slowed modernization in order to fully fund those expenditures that guarantee near-term readiness, such as spare parts, training, and maintenance. As a result, modernization funding in fiscal year 1997 was said to be the lowest it had been in many years, about one-third of what it was in fiscal year 1985. To reverse this trend, DOD plans to increase funding to procure new equipment, including funding for "everyday equipment" ground forces needed in the field, such as tactical communications gear, trucks, and armored personnel carriers. Likewise, the Chairman, Joint Chiefs of Staff has expressed concern about the future readiness of Army forces given reduced levels of modernization funding.

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## Objectives, Scope, and Methodology

As required by the National Defense Authorization Act for Fiscal Year 1996, we reviewed (1) the extent to which TAA 2003 resulted in sufficient combat support/combat service support force structure to meet the

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<sup>3</sup>The Army Program Objective Memorandum is a biennial publication that defines Army programs for 6 years into the future and tabulates funding anticipated for these programs.

support requirements of the two-MRC scenario and also operations other than war (OOTW), (2) whether the Army's streamlining initiatives have identified opportunities to further reduce Army personnel resources devoted to institutional Army (TDA) functions, and (3) the feasibility of further reducing active Army end strength.

In conducting our assessment, we did not examine DOD's rationale for requiring 10 active combat divisions or the Army's rationale for using three full active brigades per division instead of round-out or round-up reserve brigades. We also did not fully assess ongoing studies concerning the future use of reserve forces or analyze potential changes to the current national military strategy. Since much of the Army's analysis in TAA 2003 is based on the combat forces assigned to it by the BUR and the then current defense planning strategy, any changes in this guidance would likely alter Army support force requirements.

To determine the extent to which TAA 2003 resulted in sufficient combat support/combat service support force structure to support the two-MRC scenario and OOTWS, we reviewed the Army's documentation on TAA processes, assumptions, and results. We interviewed Army officials at Department of the Army Headquarters, Washington, D.C.; Concepts Analysis Agency, Bethesda, Maryland; U.S. Forces Command, Fort McPherson, Georgia; and U.S. Army Training and Doctrine Command (TRADOC), Fort Monroe, Virginia, and Fort Leavenworth, Kansas.

Our review of TAA 2003 included analyses of the risks associated with the number and type of active and reserve support forces allocated to support war-fighting requirements; how the Army's assumptions compared to those in defense guidance, previous TAAs, or used in other DOD, Army, or external defense studies; and how the major assumptions used in TAA can affect force structure outcomes (including measures of risk). We also examined TAA processes to determine if the Army (1) obtained adequate participation by stakeholders in the process, including major commands and commanders in chief (CINC) and (2) scrutinized data inputs used in its war-fight models to determine if they were free from error. In addition, we discussed TAA 2003 results and methodology with OSD officials. Further, to better understand how the requirements of the joint war-fighting commands are considered in the TAA process and how CINCS are affected by TAA results, we requested information and received formal responses from the CINCS of the U.S. Atlantic Command, the U.S. Central Command, the U.S. European Command, and the U.S. Pacific Command.

To assess Army streamlining initiatives and their potential for reducing military personnel devoted to institutional Army functions, we obtained documentation and held discussions with officials from the Office of the Assistant Secretary of the Army for Manpower and Reserve Affairs; the Army's Office of Program Analysis and Evaluation; the Army Budget Office; Department of the Army Headquarters; the U.S. Army Force Management Support Agency, Washington, D.C.; U.S. Army Forces Command, Fort McPherson, Georgia; U.S. TRADOC, Fort Monroe, Virginia, and Fort Leavenworth, Kansas; the U.S. Army Medical Command, Fort Sam Houston, Texas; and the U.S. Army Materiel Command's Management Engineering Activity, Huntsville, Alabama. We reviewed major commands' TDA requirements processes and discussed proposals for increased use of workload-based management to assess the TDA requirements determination process. To assess TDA streamlining, we identified and reviewed Army streamlining studies, including Force XXI, major command reengineering, and Army headquarters policy initiatives that resulted in reductions in military and civilian resources, as well as budgetary savings. We also assessed limitations to further streamlining of the TDA force due to legal, cultural, and operational requirements. We did not review the justification for TDA positions that are required by law or controlled by other agencies.

To assess the implications of DOD's planned reduction in active Army end strength, we examined the objectives and implementing guidance for the Army's Force XXI campaign, which DOD cited as justification for the reduction, and the personnel reductions realized or anticipated as a result of these initiatives. We also considered OSD's internal assessment of the Army's TAA 2003 process and the potential for changes in defense strategy resulting from the Quadrennial Defense Review. Lastly, we considered the current status of TDA streamlining and the results of TAA 2003.

DOD provided written comments on a draft of this report. These comments are discussed and evaluated in chapters 2 and 3 and are reprinted in appendix V. Additional comments from the Army are discussed and evaluated in chapter 4.

We conducted our review from September 1995 to October 1996 in accordance with generally accepted government auditing standards.

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# Army Can Support Two MRCs With Moderate Risk

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The Army believes that it can provide support forces for two MRCs at a moderate level of risk. However, in assessing risk, the Army found that 42 percent of all support forces required in the first 30 days of the first MRC would be late arriving to theater because they cannot mobilize and deploy in time. The Army also found that it would have very few active support forces available to send to the second MRC—only 12 percent of the total support forces needed. In addition, the Army did not authorize 19,200 positions that are needed to bring some existing units up to their full required strength. Finally, units totaling 58,400 positions were not authorized any personnel because the Army's total wartime support requirement exceeds available personnel authorizations.

The Army's risk assessment depends largely on the assumptions and model inputs that were adopted for TAA 2003. Some of these assumptions were favorable in that they minimized risks to U.S. forces. For example, to be consistent with defense guidance, TAA assumed that U.S. forces had immediate access to ports and airfields in the theater of operations, faced limited chemical attacks, and were immediately available for redeployment if previously committed to OOTWS. Less optimistic assumptions would have led to higher support requirements. On the other hand, the Army did not consider all available resources to satisfy its unmet support force requirements, such as some support force capabilities that currently reside in the Army's eight National Guard divisions and the TDA force, and support available from outside contractors and defense civilians. Also, while TAA is an analytically rigorous process, some aspects of its methodology could be improved. For example, TAA lacks mechanisms for adjusting to change during its 2-year cycle; some model inputs, such as consumption of fuel and water, were not sufficiently scrutinized; and sensitivity analyses were generally not used to measure the impact of alternative assumptions and resourcing decisions on risk. Changes to any of the key assumptions or other model inputs could produce significantly different force structure requirements than those determined in TAA 2003, and potentially different risk levels.

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## TAA Process Balances War-Fighting Risk With Resource Constraints

Based on defense guidance, other Army guidance and inputs, wargaming assumptions, unit allocation rules,<sup>1</sup> and logistical data, TAA determines the number and type of support units the Army needs to execute the national military strategy. TAA then allocates Army personnel authorizations, both active and reserve, among these support force requirements to minimize

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<sup>1</sup>Unit allocation rules quantify each type of support unit's capability, mission, and doctrinal employment as applied to specific wartime scenarios.

war-fighting risk. TAA is an advance planning tool that tries to anticipate potential war-fighting scenarios and personnel availability approximately 9 years in the future.

TAA consists of a series of campaign simulation models and force structure conferences attended by representatives from key Army staff offices and commands, as well as the unified commands. A strategic mobility analysis is performed to determine the arrival times of Army forces in theater and identify shortfalls. This is followed by a theater campaign analysis to gauge force movement and unit strength over time, as well as personnel and equipment losses. Outputs from these models, along with approved unit allocation rules and logistics data, are input into the final Army model, Force Analysis Simulation of Theater Administration and Logistics Support. This model generates the required support forces by type and quantity, and specifies when they are needed in theater and what their supply requirements would be. The support forces identified by the model are then matched to actual Army support units.

At this point, priorities are established among the competing requirements, and approaches are discussed to mitigate the risks of unmet requirements. One approach has been to authorize fewer personnel to some units than are required to meet their full wartime requirement. Additionally, the active/reserve force mix is examined on a branch by branch<sup>2</sup> basis to assess whether sufficient active forces are available to meet early deployment requirements. The approved force structure is forwarded to the Army's Chief of Staff for final approval as the base force for programming Army resources for the next Program Objective Memorandum. A more detailed description of the Army's TAA process is provided in appendix I.

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## **Army Assesses Its War-Fighting Risk as Moderate**

The Army concluded that its authorized support forces, resulting from TAA 2003, were consistent with the moderate risk force delineated in the October 1993 BUR. This force, among other things, must be able to fight and win two MRCs that occur nearly simultaneously. To assess the risk level associated with its support forces, the Army employed four measures: late risk, second MRC risk, unmet requirements risk, and casualty risk. Each of the risks was quantified; however, their collective impact on the war fight was not modeled by the Army. Rather, the Army's overall assessment of moderate risk is based on military judgment.

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<sup>2</sup>Individuals in the Army are assigned to specialties or branches of the Army according to the functions they would perform in combat or in support of the combat units.

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## **42 Percent of Required Support Forces Arrive Late**

TAA stipulates that support units needed in the first 30 days of the first MRC should be drawn from the active force because of the time needed to mobilize, train, and deploy reserve units. This is consistent with defense guidance. However, TAA 2003 found that about 79,000 of the more than 188,000 support force positions required in the first 30 days of the first MRC do not arrive on time because the Army lacks sufficient numbers of active support forces to meet these requirements and must rely on reserve forces instead. This represents 30 percent of the 260,000 total authorized Army force needed during this time period, and 42 percent of the Army support forces required. Branches with the most late arrivals include engineering, transportation, quartermaster, and medical—branches with high concentrations of reserve personnel. This risk is exacerbated when the Army relies on reserve forces during the first 7 days of the war fight. Almost one-quarter of the reserve support forces assigned to meet requirements during the first 30 days (19,200 positions) are needed in the first 7 days of the MRC.

The 30-day time frame to mobilize and deploy reserve support forces is substantiated in classified studies by the RAND Corporation that examined the availability of reserve forces and by Army officials responsible for reserve mobilization activities. The Army estimates that mobilizing reserve forces, from unit recall to arrival at the port of embarkation, takes about 15 days for a small support unit and 31 days for a large unit. Personnel may be transported by air, but their equipment likely will be shipped by sea. Depending on whether the equipment sails from the east or west coast and to which theater, it will take an additional 12 to 30 days to arrive, unload, and assemble the equipment. Therefore, a small reserve unit will be available for the war fight no earlier than 27 days after call-up, and a large reserve unit will require at least 43 days. (See app. II for a listing of mobilization tasks and the time required to complete them.)

OSD officials believe that if it were possible to reduce late risk by making more active forces available during the first 30 days, strategic lift constraints would limit the number of active support forces that could be moved to theater. Army officials noted that to the extent that any active support personnel are available to replace late reservists and could be moved, the Army's risk of late arrivals would be lower.

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## **Few Active Support Forces Available for Second MRC**

The availability of active support forces for the second MRC was another risk measure used in TAA 2003. Specifically, as the availability of active

forces declined—and with it a corresponding increased reliance on reserve forces—risk was assumed to increase. The second MRC will have access to relatively small numbers of active support forces, most of them having deployed already in support of the first MRC. Consequently, the Army must rely on reserve component forces to meet most of its requirements in the second MRC. Only 12 percent of the support forces needed in the second MRC are active, compared with 47 percent in the first MRC. Branches with low representation of active forces in the second MRC include engineer, transportation, quartermaster, and artillery. High reliance on reserves for use in the second MRC may not entail greater risk assuming there is adequate warning time and mobilization has already occurred. The same risk of late arrival would apply if mobilization was delayed.

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**Units Totaling 58,400  
Positions Exist Only on  
Paper, and Some Active  
Units Are Allocated Fewer  
Positions Than Required**

An objective of TAA is to allocate resources among competing support force requirements. In the case of TAA 2003, the Army's force structure requirements initially exceeded its authorized positions by 144,000 positions. At the conclusion of TAA, units totaling 58,400 positions were not allocated any positions and exist only on paper, and other existing active units were allocated 19,200 fewer positions than needed to meet mission requirements.

Table 2.1 illustrates the Army's approach to allocating its resources in TAA 2003. Drawing from its active, National Guard, and Reserve forces, the Army identified 528,000 authorized TOE positions that it could apply to its 672,000 Army requirement to fight two MRCs, leaving an initial imbalance of 144,000 positions. The Army's total TOE force is actually higher than 528,000 positions (see table 2.1), but some resources are excluded from consideration in TAA, such as the eight National Guard divisions the Army considers as a strategic hedge, and forces needed to perform unique mission requirements.

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**Table 2.1: Calculation of TAA 2003 Shortfall**

Description of Army action	Action to reduce TAA shortfall	TAA 2003 remaining shortfall
Army TOE requirement to fight two MRCs (including both combat and support forces)	672,000	
Less: Available Army position authorizations	<u>528,000</u>	
Initial shortfall calculated by TAA	144,000	
Less: Positions converted from lower priority units to other types	<u>66,000</u>	
Remaining Shortfall	<u>78,000<sup>a</sup></u>	
Comprised of:		
Units totally unstaffed		58,400 <sup>b</sup>
Understaffed active support units		<u>19,200</u>

<sup>a</sup>Rounded.

<sup>b</sup>Host nation support reduces the Army's shortfall to about 44,000.

Source: Department of the Army Headquarters, Washington, D.C.

The Army then analyzed all of its support forces at Corps level and above to determine how it could reduce the risk associated with its shortfall. This resulted in the Army shifting about 66,000<sup>3</sup> active and reserve positions from support units excess to the war fight to higher priority support units. Units providing fire fighting, engineering, and medical support were among those selected for conversion. After these conversions, the Army was left with a shortfall of about 78,000 positions. This shortfall was allocated as follows. Some existing active support units were authorized fewer positions than are needed to meet their full wartime requirement.<sup>4</sup> In TAA 2003, these amounted to about 19,200 positions. The expectation is that these understrength units would be brought up to full strength before being mobilized. These additional personnel would come from the Individual Ready Reserve<sup>5</sup> or new recruits. The remaining shortfall of 58,400 positions represents units that

<sup>3</sup>Converting these 66,000 active and reserve support positions to different positions will cost an estimated \$2.6 billion.

<sup>4</sup>The Army allocates authorized positions to units commensurate with their mission and when they are scheduled to deploy. A unit allocated its full wartime requirement has an authorized level of organization of one, whereas a unit authorized to fill 80 percent of its required positions has an authorized level of organization of three.

<sup>5</sup>The Individual Ready Reserve is a manpower pool of pretrained individuals who have already served in active units or in the reserves and may have some part of their military service obligation remaining.

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are needed to meet a wartime requirement but have not been allocated any position authorizations, that is, units that exist only on paper. Table 2.2 shows how each of the Army's major support branches will be affected by the conversions and where the remaining 58,400 positions in vacant units reside.<sup>6</sup> Among the branches benefiting most were quartermaster and transportation, which accounted for more than half of the initial shortfall in totally vacant units.

**Table 2.2: Major Category Adjustments to Authorized Positions**

<b>Branch</b>	<b>Initial shortage of authorized positions</b>	<b>Shortage of authorized positions after TAA adjustments</b>
Chemical	1,100	700
Engineer	4,400	2,900
Artillery	1,200	1,200
Medical	12,400	2,000
Ordnance	3,700	100
Quartermaster	31,600	21,300
Signal	3,800	4,000
Personnel service support	1,200	300
Armor	1,100	1,100
Military police	2,400	0
Special operations	1,700	0
Air defense	4,600	4,300
Headquarters	300	200
Transportation	45,100	20,400
Logistics	500	0
<b>Total</b>	<b>124,800<sup>a</sup></b>	<b>58,400<sup>a</sup></b>

<sup>a</sup>Does not add due to rounding.

Source: Department of the Army Headquarters, Washington, D.C.

Two additional actions were taken by the Army to mitigate the risk associated with its remaining unmet requirements. The Army estimates that host nations will be able to provide the equivalent of over 14,000 positions to offset some requirements, leaving a shortfall of about 44,000 positions in vacant units. The Army also plans to implement an option developed by the Army National Guard Division Redesign Study to convert 42,700 Army National Guard combat division positions to required support positions—eliminating most of the remaining vacant units. However,

<sup>6</sup>For many years, the Army's support force requirements have greatly exceeded the number of support forces authorized. See appendix III for a comparison of TAA 2003 and TAA 2001 unmet requirements.

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according to the study, these conversions will cost up to an additional \$2.8 billion and could take many years to complete.

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## **Expected Casualties Are Another Measure of War-Fight Risk**

The Army computes the number of casualties expected for each MRC as another measure of risk.<sup>7</sup> Casualties are computed through a model that uses the Army's full two-conflict requirement of 672,000, rather than the 528,000 authorized Army positions to meet that requirement. The number of casualties is a function of the population at risk, which is reflected in defense guidance; the wounded in action rate, which is calculated in the TAA modeling; and the disease, nonbattle injury rate, which is established by the Army Surgeon General. Campaign simulations generate the combatant battle casualties, which accounts for about 80 percent of all casualties. The remaining 20 percent are extended to support forces with algorithms. Variables that are considered in arriving at casualty estimates include the battlefield location (e.g., brigade area, division rear, and communications zone); intensity of the war fight (e.g., defend, attack, and delay); and the weapon systems involved. The Army uses a high-resolution model that pits individual weapon systems against one another to project equipment and personnel killed or injured for a multitude of platforms (e.g., 12 different types of tanks, light armored vehicles, and helicopters), according to their lethality under various conditions (e.g., moving, stationary, and exposed).

Once the Army computes its casualties for each MRC, it does not increase its force requirements to provide casualty replacements. Otherwise, its personnel requirements would be much higher and shortfalls would be greater. The Army reasons that given the anticipated short duration of the MRCs, there will be little opportunity for significant replacements of individuals killed or otherwise unavailable for duty. However, if a need arose, individual replacements likely would be drawn from soldiers who had just completed their introductory training or by mobilizing the Individual Ready Reserve.

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## **Some Modeling Assumptions Lead to Understated Requirements**

Some of the assumptions and model inputs adopted for TAA 2003 lead to understated support force requirements. Without rerunning the theater campaign models with different assumptions and model inputs, the Army cannot determine the impact of changes in most of these assumptions, such as delaying the call-up of reserve forces on force requirements. However, some assumptions lend themselves to estimable force level

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<sup>7</sup>Casualty numbers are classified.

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equivalents, such as coalition support requirements. To the extent that less favorable assumptions would increase the Army's support requirements, the risks associated with the current force may be higher than suggested by TAA 2003 results.

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**TAA 2003 Used Many of  
the Same Favorable  
Assumptions Cited in  
Defense Guidance**

During TAA, the Army used many key assumptions in modeling the two MRCs that were identical or similar to assumptions cited in the defense guidance then in effect. Some of these assumptions were favorable, that is, they tended to minimize risk to U.S. forces and objectives. These included:

- Immediate access to ports and airfields. TAA assumed that U.S. forces would have immediate, unobstructed access to ports and airfields in the theater of operation. An adverse case excursion was modeled in which immediate access to primary ports and airfields was denied in a one-MRC scenario. This excursion reflected a requirement for additional positions above that needed for two nearly simultaneous MRCs when it was assumed that immediate access would be available. Over 90 percent of this additional requirement was for transportation and quartermaster positions—positions already in short supply. However, in stating its requirements for TOE forces, the Army used the base case requirement of 672,000 positions.
- Timely decisions by the National Command Authorities. TAA assumed that the call-up of reserve forces coincided with the day U.S. forces deploy to the first MRC and that the activation of the Civil Reserve Air Fleet, civilian aircraft that augment the military in wartime, occurs early.<sup>8</sup> For the reserve call-up to occur on the same day as the first deployment of U.S. forces assumes that it occurs at the earliest feasible opportunity.
- Limited chemical use. TAA assumed limited use of chemical weapons by enemy forces in each of the MRCs. Because of the constrained amount of chemical weapons modeled, some TAA participants did not believe the scenario provided a realistic representation. A more intensive chemical attack was modeled in a single MRC adverse case excursion. Results of this excursion indicated a requirement for additional support forces, but this is not reflected in the overall TAA base case requirement of 672,000 spaces. For example, casualties resulting from chemical attacks were not modeled in TAA 2003 to identify the medical support requirement.

Changes to any of these assumptions would have resulted in higher force requirements than those determined in TAA 2003. However, rather than

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<sup>8</sup>Under 10 U.S.C. 12304, the President can activate up to 200,000 reservists for not more than 270 days, without a declaration of war or other national emergency.

present a range of requirements to reflect the results of less favorable assumptions, the Army focused solely on the base case in arriving at the results of TAA 2003. A list of the key assumptions used in TAA 2003 is provided in appendix IV.

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### **Other Assumptions Also Resulted in Lower Force Requirements**

Support force requirements would also have been higher had the Army not taken steps to eliminate some workload requirements from consideration in TAA. For example, no requirements were added to support coalition partners, although historically the Army has provided such support. OSD officials estimate that support to coalition partners would result in an additional requirement of from 6,500 to 20,000 spaces.

Also, support force requirements were determined based on a steady state demand rate, which does not account for above average periods of demand. This approach, called smoothing, disregards the cumulative effect of work backlogs. Smoothing can be problematic for units whose resources are based on the amount of workload to be performed, such as transportation, fuel supply, and ammunition supply units.<sup>9</sup> For example, fuel off-loaded onto a pier will remain on the pier until transportation is available to move it. With smoothing, this backlog of fuel is forgotten; no resources are applied toward it because the Army model does not take into account workload that was not performed previously. Rather, the model considers each time period during the operation as a discrete, independent event.

The effects of smoothing tend to diminish over time. However, for relatively short wars, such as those envisioned in illustrative planning scenarios contained in defense guidance, the impact can be significant. For TAA 2003, the effect of smoothing understated the support force requirement by more than 28,000 positions, according to Army officials. The branches most affected by smoothing were transportation (more than 18,400 positions) and quartermaster (more than 3,800 positions), the two branches with the highest number of unmet requirements, smoothing notwithstanding. Army officials told us that the requirement for cargo transfer and truck companies during the first 30 days of the first MRC is almost twice as great (183 percent) when the requirement is not smoothed, and three times as great over the entire conflict.

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<sup>9</sup>Exceptions are medical and some combat engineer units. Their requirements were not smoothed, but rather computed to handle peak requirements.

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## TAA Requirements Do Not Adequately Reflect U.S. Role in OOTWs

Since TAA 2003 requirements are based on the two-MRC scenario, some officials have questioned whether the Army has given adequate attention to the role of OOTWs in the post-Cold War period and the demands these operations place on Army forces. In particular, some DOD officials, including CINCS, have concerns that the Army has not adequately considered delays or degradation in capability resulting from the extraction of forces from an OOTW to an MRC, or to the potential demands on supporting forces resulting from multiple OOTWs. Despite these concerns, the Army has no plans to change its approach to OOTWs in the currently ongoing TAA 2005.

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## Army Follows Defense Guidance on OOTWs but Could Experience Shortages in Some Types of Units

Defense guidance directed the Army to base TAA 2003 requirements on either two nearly simultaneous MRCs or on one MRC and one OOTW, whichever produced the greater requirement. To make this assessment, the Army modeled the force structure requirements of four individual OOTW excursions using defense illustrative planning scenarios and supporting intelligence and threat analysis information. These included requirements for a peace enforcement, humanitarian assistance, peacekeeping, and a lesser regional contingency operation.

Based on its modeling results, the Army concluded that requirements for one OOTW plus an MRC was less than the two-MRC war-fight requirement. In fact, the Army found that the aggregate support requirements of all four OOTWs were less than the support requirements for one MRC. Accordingly, the Army believes the needs of OOTWs can be satisfied by fulfilling the MRC requirements.

The Army also observed that OOTWs could stress certain support specialties and used its excursion results to help “sharpen its assessment” of how Army resources should be allocated. For example, the Army conducted quick reaction analyses of the operational concept for employment and support of forces under the four defense planning OOTW scenarios. Among other results, these analyses identified a need for additional active Army support specialties, including transportation and quartermaster capability. The Army also found these specialties to be in short supply when it examined the impact of redeploying forces from an OOTW to an MRC. During OOTWs, the Army relies on active support forces and reserve volunteers, prior to a presidential call-up of reserve forces. To help mitigate this risk, Army officials told us they decided, to the extent possible, to redistribute resources during TAA to help overcome these key shortfalls. As shown on table 2.2, the Army shifted positions from other

lower priority requirements to both the transportation and quartermaster branches in TAA 2003, although shortages remain and these branches are still heavily reliant on reserve forces.

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**TAA Assumes That Forces  
Assigned to OOTWs Can  
Readily Redeploy to MRCs**

In the event the United States becomes involved in a major conflict, defense guidance assumes that the Army will withdraw its forces committed to OOTWs to respond to an MRC. Neither the Army nor the defense guidance acknowledges any potential for delays or degradation of mission capability of forces previously assigned to OOTWs in determining the Army's support force requirements. However, both the Army's own analyses and comments from the CINCS question this assumption.

For example, as part of its risk assessment for TAA, the Army conducted an excursion to determine whether involvement in a significant OOTW would result in insufficient support force structure for the first 30 days of an MRC. The Army analysis found that about 15,000 active support forces participating in a sizable OOTW were required for this first MRC. The Army assumed it could extract these forces from the OOTW without delays or degradation in capability, but it provided no analysis to support this position. In contrast, TRADOC Analysis Center, in conducting a classified study on strategic risks, assumed as a given, that 20,000 Army active component resources would be committed to one or more OOTWs and would not be available to participate in the two-MRC war fight. Another TRADOC analysis has highlighted the reconstitution challenges encountered when moving support forces from an OOTW environment to an MRC, where personnel and equipment requirements frequently differ. During the planning phase of TAA 2003, the Forces Command commander recommended that the Army first determine the level of force structure it was willing to commit to OOTWs and then exclude this OOTW force from participating in the first MRC war fight. Both the TRADOC Analysis Center and the Forces Command commander were acknowledging that extraction from OOTWs could not be performed without consequences.

CINCS also expressed concern regarding the Army's handling of OOTWs in TAA 2003. For example, the CINC, U.S. Atlantic Command, stated that his major concern was in transitioning from an OOTW to an MRC, especially in the case of units with unique or highly specialized training and/or equipment. Similarly, the CINC, U.S. European Command asserted that some allowance must be developed in TAA to account for OOTW-type requirements, considering (1) their impact on a heavily committed resource base (i.e., active Army combat and support personnel) and

(2) the time necessary to extract the troops from such missions if U.S. forces must be shifted to contend with an overwhelming threat to U.S. strategic interests. The CINC believes this is particularly important because U.S. commitments to these operations are significant and the trend to involve U.S. forces in such operations is on the rise.

Our past review further supports the CINCS' concerns. We reported that critical support and combat forces needed in the early stages of an MRC may be unable to redeploy quickly from peace operations because certain Army support forces are needed to facilitate the redeployment of other military forces.<sup>10</sup> In addition, our follow-on peace operations study cited this deficiency as significant, because in the event of a short-warning attack, forces are needed to deploy rapidly to the theater and enter the battle as quickly as possible to halt the invasion.<sup>11</sup>

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## **Multiple OOTWs Could Add to Army Risk**

As part of its analysis of the four OOTW excursions, the Army developed troop lists and overall size estimates for each type of OOTW. These force size estimates suggest that multiple OOTWs could result in a major commitment of personnel resources—resources that have not been fully evaluated in the TAA process. This is the view of the current CINC, U.S. European Command, based on his expanded troop involvement in Bosnia, Macedonia, Turkey, and Africa. The CINC asserts that essential support personnel have been stretched to the limit for resourcing the above military operations in his area of geographic responsibility, including those associated with providing fuel supply and distribution capacity, heavy truck transportation, military police, fuel handling, and communications repair. By their nature, these operations tend to be manpower intensive. Thus, the CINC stated that the next TAA process should consider how to include specific operational scenarios of a lesser regional scale (i.e., OOTWs), in addition to the two MRCs.

The Army lacks the quantitative data to assess how such potentially burdensome and repeated deployments of support troops in OOTW-like operations impact the Army. However, comments from both the CINCS and some Army officials suggest the need for improved force structure planning for such contingencies. Army officials responsible for TAA responded that the Army must assume that the forces needed for OOTW-type operations will come from the same pool of forces identified for

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<sup>10</sup>Bottom-Up Review: Analysis of Key DOD Assumptions (GAO/NSIAD-95-56, Jan. 31, 1995).

<sup>11</sup>Peace Operations: Heavy Use of Key Capabilities May Affect Response to Regional Conflicts (GAO/NSIAD-95-51, Mar. 8, 1995).

use in the event of one or more MRCs, because this is a defense guidance requirement. As a result, the Army plans no future changes in how TAA approaches multiple OOTWS and their resourcing implications. This includes TAA 2005, which is now underway.

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## Available Support Personnel Were Excluded From TAA Process

In resourcing the Army's support requirements for fighting two MRCs, the Army did not consider all available personnel at its disposal. By better matching available personnel with its requirements, we believe the Army could mitigate some of the risks disclosed in TAA 2003 results. Specifically, TAA did not consider support capabilities that currently exist in the National Guard's eight divisions, civilian contractor personnel, TDA military personnel, or civilian defense personnel. Considering these personnel, most of which would be suitable to meet requirements for later deploying units, could enable the Army to somewhat reduce its shortfall of support personnel. However, it would not resolve the Army's shortage of active support personnel to meet requirements in the first 30 days. TAA gave limited recognition to some host nation support to reduce the number of positions in unresourced units to 44,000, but is reluctant to place greater reliance on this resource until DOD resolves major issues as to when and how much support host nations will provide.

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## Army National Guard

In TAA 2003, the Army did not consider how to use the support capability that currently exists in the eight Army National Guard divisions that the Army does not envision using during a two-conflict scenario. Based on the Army's analysis, some support capabilities in the National Guard divisions are similar or identical to support units in short supply. In our March 1995 report,<sup>12</sup> we found that personnel in these divisions could be used to fill 100 percent of the vacant positions for 321 types of skills, including helicopter pilots, communications technicians, repair personnel, military police officers, intelligence analysts, and fuel and water specialists. In response, DOD formally concurred with our recommendation that the Army identify specific support requirements that could be met using National Guard divisional support units and develop a plan for accessing that support capability. This capability was not considered in TAA 2003 and we know of no plans to consider it in TAA 2005.<sup>13</sup> Army officials advised us that

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<sup>12</sup>See pp. 5-7 of our report, *Force Structure: Army National Guard Divisions Could Augment Wartime Support Capability* (GAO/NSIAD-95-80, Mar. 2, 1995).

<sup>13</sup>These National Guard support capabilities exist today—they do not hinge on the Army's action to convert 42,700 combat positions to support positions at a cost of \$2.8 billion, as detailed in a May 1996 National Guard division redesign study.

while the National Guard units have specific personnel and equipment that could be used in wartime, the units do not clearly correlate with support units, and would likely deploy piecemeal rather than as full units, as the Army prefers. For this reason, Army officials advised us that there are no efforts underway to consider these personnel in TAA, as we recommended, even though in a wartime situation, the Army would, in fact, make use of these resources as a “fallback.” Since Army officials agreed that in some cases (for example, transportation), there may be potential for deployment to MRCs, planning how to access these forces in advance could reduce the number of unfilled positions in TAA. However, it would not reduce the Army’s late risk (i.e., the risk that forces might not arrive in the first 30 days of the first MRC), since these forces could not be mobilized, trained, and deployed in time.

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## **Civilian Contract Personnel**

Contract personnel were also not considered in TAA 2003. The Army is already making greater use of contract personnel to provide many of the support services typically provided by its combat service support personnel. For example, through its Logistics Civil Augmentation Program, the Army has used contractor personnel to provide base camp construction and maintenance, laundry, food supply and service, water production, and transportation. In terms of timing, the Army’s current contract calls for logistical and construction support to be initiated within 15 days of the Army’s order. Among the most recent operations using contractor personnel are: Operation Restore Hope (Somalia); Operation Support Hope (Rwanda); Operation Uphold Democracy (Haiti); Operation Joint Endeavor (Bosnia); and Operation Deny Flight (Aviano, Italy). Civilian contractors were also used extensively in both the Korean and Vietnam wars to augment the logistical support provided to U.S. forces. However, the Army made no assessment in TAA 2003 to determine how much of its unresourced requirement could potentially be offset by contractor personnel.

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## **TDA Personnel**

TAA 2003 also did not consider the potential use of TDA military personnel (with the exception of medical) and civilians, even though, in some instances, these personnel can and do deploy—sometimes on very short notice. Chapter 3 will discuss the need to unify the Army’s separate processes for allocating personnel to TOE and TDA, so that personnel who perform similar functions are considered together.

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## Host Nation Support Reduces Unmet Requirements

Another potential resource pool the Army could consider to a greater extent is host nation support. To minimize war-fight risk, the Army does not use host nation support to offset requirements without a signed agreement from the host nation, and then only in cases where the joint war-fighting command is confident the support will be provided when and where needed. Host nation support that meets this test is only used to offset requirements for units that were not allocated any positions in TAA. In TAA 2003, host nation support offset over 14,000 of these positions.

OSD officials who have reviewed TAA 2003 suggested that the Army place a greater reliance on host nation support by relaxing the requirement that the United States have formal agreements with the host nation to provide the support. OSD estimates that the Army could reduce its support force shortfall by as much as 42,000 if it were to count on likely host nation support even though formal agreements may not be in place. However, the Army's current position is consistent with that of the Secretary of Defense, as reported in the Fiscal Year 1995 Annual Statement of Assurance to the President and Congress, under the Federal Managers' Financial Integrity Act. In that statement, the Secretary cites a material weakness in the Central Command's program for validating quantities of wartime host nation support presumed to be available for use by U.S. forces, but not documented by formal agreements.

The Central Command's corrective action plan requires that lists of commodities and services required from the host nations be organized by location and time of availability and that the host nations' political and military leaderships agree to these lists. We followed up with the Central Command to determine the status of their corrective action plan and were told that while efforts were underway to obtain such agreements, nothing was definite. Chapter 4 addresses further actions under way to respond to OSD's analysis.

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## Some Aspects of TAA's Methodology Could Be Improved

While TAA is an analytically rigorous process, it is not an exact science. There are many assumptions and uncertainties involved in sizing Army support forces, and seemingly small changes can dramatically alter its final outcome. Among TAA's strengths are that it bases many of its decisions on established Army doctrine, involves senior leadership throughout the process, and includes consensus building mechanisms among the branches. On the other hand, the Army may be able to improve some aspects of TAA's methodology. For example, not all TAA model inputs were scrutinized to ensure they were free from error; the process does not

easily accommodate changes that occur during its 2-year implementation cycle; TAA's transportation model is not rerun with the required force; and the Army does not prioritize deficiencies that remain and develop action plans to mitigate risk.

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### **Participants Questioned Validity of TAA Model Inputs**

Participants' exposure to TAA modeling was limited and focused on the results of the war gaming, not its methodology and detailed assumptions. Nonetheless, in TAA 2003, participants detected errors in model inputs late in the process, after the models had been run and requirements had been identified. While allocating positions, participants began to question whether fuel and water consumption rates had been understated. Since the TAA process had already been delayed as the Army considered how to account for OSD's planned 20,000 reduction in end strength, the Army had an opportunity to convene a supplemental conference to allow time to rerun the models with revised inputs. The result was an additional support requirement of 48,000 positions. This experience caused some participants to question the degree to which the Army had scrutinized its planning data and assumptions. It also provides an illustration of how changes in the model inputs can dramatically alter the final results of TAA.

In another example, the Army was able to reduce its medical-related support requirements in TAA 2003 by reducing the medical evacuation time from 30 to 15 days. Previously, the policy was 15 days within the first 30 days of the conflict and 30 days thereafter. This one change, which was supported by the Army's medical branch, reduced the need for hospital beds in theater by 35 percent. This change led to reductions in branches like engineer and quartermaster, and in some types of medical units. Both OSD and Army officials agree that key model inputs, such as those for fuel, ammunition, and medical, need to be reviewed and validated because they can have such a significant impact on TAA results.

The Army is responsible for providing certain logistics support to the other services during the two MRCs. TAA acknowledged the need for Army personnel to support the Air Force, the Navy, and the Marine Corps forces, and the Army solicited their wartime requirements through the war-fighting CINCS. For example, in TAA 2003, the Army's assistance consisted primarily of providing overland transport of bulk fuel and ammunition. Based on CINC inputs, the Army added about 24,000 support positions to assist the other services in these areas, meeting 79 percent of their requirements. According to a Forces Command official, during a war, the war-fighting CINCS determine where to allocate these personnel.

Additionally, some Army officials believe that some of the logistical support requirements such as those for transportation may be understated because the Army typically receives a poor response from the CINCS concerning the other services' requirements. The Army acknowledges it needs more accurate estimates of the other services' needs.

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### **TAA Results Can Be Overtaken by Events**

Because of the time needed to complete a full TAA cycle, almost 2 years, the Army may find that key assumptions or data inputs, while valid at the time, have essentially been overtaken by events. TAA has a limited ability to accommodate changes in strategy or key assumptions that occur beyond its initial planning phase. This inability to accommodate change undercuts the Army's case that TAA is focused on the future, that is, Army force structure required 9-years out. The following examples in TAA 2003 illustrate this point.

- First, soon after TAA 2003 was completed, the Secretary of Defense issued new guidance reflecting a significant change in scenarios. TAA 2003 assumed that the MRCs would be sequenced differently, consistent with earlier guidance. A subsequent analysis by the Army showed that if the more current guidance had been used, an additional 40,000 warfight support positions would have been required. TAA 2005 could also be impacted by changes in defense strategy since the Army plans to run its models based on the existing two-conflict strategy. The ongoing Quadrennial Defense Review could change this strategy and lessen the usefulness of the Army's TAA results.
- Second, in the middle of the TAA 2003 process, OSD issued a directive for the Army to reduce its active end strength by 20,000 toward a goal of 475,000 as early as practical, but no later than 1999. Army officials told us that TAA could not accommodate this change since it could not anticipate what parts of its force would be affected by the mandated cut, and any changes to its combat forces would affect how the Army fights. This, in turn, would result in changes to various inputs to the war fight model itself.

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### **TAA Transportation Model Not Rerun With Required Force**

The TAA process could be enhanced if additional analyses were conducted to reveal the impact of force size on the movement of forces to fight two major conflicts. The Army could have refined its mobility assessment by running the TAA 2003 required force through its transportation model, rather than exclusively relying on the earlier TAA 2001 required force. TAA models were run in the early stages of the process using a prior TAA (i.e.,

TAA 2001) generated force structure to establish a baseline for flowing forces into theater and to fight the war. At the conclusion of this phase of TAA, the Army determines its total war-fighting requirement. However, the Army does not rerun its models with this “required” TAA 2003 force to assess the impact of this larger force on moving forces to theater. Army officials agreed that rerunning its transportation model using the required force would improve TAA, and the Army is currently considering how to use its iterative modeling capability to its best advantage in TAA 2005.

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### **Remaining Deficiencies Are Not Prioritized**

The Army does not prioritize force deficiencies that remain after TAA is completed and all force structure decisions are made, nor does it indicate what is being done to mitigate war-fighting risks. Examples of risk reduction measures include: use of new technology to overcome personnel shortages; new training initiatives (e.g., cross training personnel to perform more than one function); changing doctrine where appropriate; or drawing on other resource pools not addressed in TAA (e.g., civilians, reserves, and contractors). Although not formally documented in the TAA 2003 process, the Director of Army Force Programs told us that he is identifying actions to further mitigate the risks identified in TAA 2003. The Director cited studies on the feasibility of home station deployment and having unequipped reservists falling in on prepositioned equipment located in counterpart active Army units (e.g., the Army’s truck fleet could handle a greater workload if it had more drivers to take more shifts). In a period of declining resources, actions such as these could help the Army use its available resources more efficiently.

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## **Conclusions**

While the Army believes it can support two MRCs, given existing force levels, and 10 fully active divisions, it has accepted some risks—most notably the lack of sufficient active support forces during the first 30 days of an MRC. TAA results indicate that 42 percent of all required support forces needed in the first 30 days of the first conflict will arrive late—about 79,000 soldiers. These late arrivers are tasked to provide essential services such as medical, engineering, transportation, and quartermaster support. The Army is also counting on the arrival of about 15,000 predominantly support personnel previously deployed to OOTWS during the first 30 days, even though CINC and Army officials question their availability and readiness during this time frame. Further, because the Army discounts peaks in demand in establishing its requirements through a technique called “smoothing,” actual workload for some types of units during the first 30 days is actually much higher than TAA 2003 requirements

reflect—almost twice as high for some transportation units. Finally, TAA results reveal that the Army will have few active support forces—about 12 percent of total support forces required—available to support the second MRC and that 19,200 required active support positions in existing units are not authorized to be filled. Moreover, units totaling 58,400 positions are not authorized any personnel at all because the Army’s total wartime support requirement exceeds available personnel authorizations. The Army plans to mitigate this risk by relying on host nation personnel and converting some Army National Guard combat forces to support forces. These conversions are not yet funded and could take many years to be accomplished.

Our examination of TAA assumptions and model inputs found that the Army used many favorable assumptions that may have understated risks to U.S. forces, such as limited chemical use by the enemy, assured port availability, and no delays in the call-up of reserves forces. In particular, the Army does not appear to have adequately considered delays or degradation in capability resulting from the extraction of forces from an OOTW to a major conflict, or to the potential demands on support forces resulting from multiple OOTWs. War-fighting commanders believe that such multiple OOTWs will add to the Army’s war-fighting risk. Since the Army does not conduct sensitivity analyses to assess the impact of less favorable assumptions, it does not know the extent to which changes in these underlying assumptions would increase Army support requirements and related risks. On the other hand, the Army could mitigate some risks by expanding its resource pool to include support capabilities that currently exist in the National Guard and TDA forces, as well as contract services—resources that, with the exception of medical, are presently excluded from TAA.

While TAA is an analytically rigorous process with extensive modeling and wide participation by key Army personnel, some aspects of its methodology could be improved. Some participants questioned whether the Army had sufficiently scrutinized key model inputs, such as consumption factors for fuel and water. In addition, by not rerunning the campaign models with its required force, the Army missed an opportunity to fully assess how mobility limitations affected risk.

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## **Recommendations**

To improve TAA’s ability to accurately project war-fighting requirements and allocate the Army’s personnel resources, we recommend that the Secretary of the Army

- reexamine key model inputs to ensure they are accurate and consistent with war-fighting scenarios;
- perform analysis to determine how multiple OOTW support force requirements might differ from support force requirements based on two MRCs and bring any variances to the attention of the Secretary of Defense so that he can consider them in developing defense guidance;
- perform sensitivity analyses on significant model inputs, assumptions, and resourcing decisions to determine their impacts on war-fighting risk. For example, although the Army used assumptions established by defense guidance, determining the implications of less favorable conditions, such as delayed call-up of reserves, would provide the Army with additional information on which to base its assessment of risk;
- rerun TAA models with the required force to assess the impact of force size on mobility requirements; and
- determine how support units resident within the eight National Guard divisions, TDA military personnel, contractor personnel, and DOD civilians can be used to fill some support force requirements.

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## Agency Comments and Our Evaluation

In written comments on a draft of this report DOD fully concurred with four of our recommendations and partially concurred with one (see app. V). DOD noted that the Army has already planned some actions to resolve issues we identified. For example, DOD stated the Army is closely scrutinizing its model inputs for TAA 2005, beginning with a rigorous review of all 3,000 allocation rules, and major studies to review fuel consumption factors and casualty rates. The Army also plans to analyze the impact of multiple OOTWs on support requirements and agreed that the current assumption that all units involved in OOTWs will be immediately available for the war fight is flawed and overly optimistic. The Army also plans to conduct other sensitivity analyses and excursions in TAA 2005, beyond those required by defense guidance. Further, the Army will rerun TAA models with the required force to provide the force flow data needed to improve its analysis of risk.

However, DOD only partially concurred with our recommendation to consider other personnel resources in filling its support force requirements. The Army plans to consider some types of Army National Guard Division assets to fill support force shortfalls where the capabilities are nearly a match, such as aviation assets. The Army also plans to further analyze how to use its TDA structure to meet both OOTW and war-fighting requirements. In the future, deployable TDA forces will be considered part of the Army's operating force. However, DOD differs with us on recognizing

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civilian contractor personnel in TAA. The Army believes that while contractor personnel enhance the Army's capabilities, they should not be considered an available resource in TAA since contractor personnel are not funded in the outyears of the Program Objective Memorandum. The Army also expressed concern about its ability to provide security to contractors in an MRC environment. Because contractor personnel have historically been used by the Army to provide support in many different types of overseas environments, both OOTWS and MRCS, we believe that, as a minimum, the Army could treat contractor personnel in the same way it treats host nation support—as an offset to unmet requirements. The Army can make assumptions concerning the funding of the Logistics Civil Augmentation Program, just as it makes assumptions about such issues as the availability of host nation support, the size of the active Army force, or the level of modernization of the force in future years.

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# The Army Plans to Eliminate Some Institutional Military Positions but Is Constrained by a Weak Requirements Process

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Despite numerous Army initiatives to improve its TDA requirements determination process since the late 1970s, the Army cannot allocate its TDA personnel based on the workload required to complete TDA missions. As a result, the Army does not have a tool to prioritize TDA functions and has made across-the-board cuts in TDA that are not analytically based. Ongoing command and Army-wide initiatives to manage TDA based on workload, to include analyzing what work needs to be done and assessing how processes can be improved, will require senior Army leadership support for successful implementation.

The Army has reviewed some TDA functions and identified a potential to reduce its TDA by up to 4,000 military positions as a result of its initial streamlining efforts. However, the Army's end strength will not be reduced; rather, the positions will be used to offset shortfalls in TOE support forces. Plans for some of these initiatives, however, have not been finalized and it is difficult to definitively quantify some savings. Army TDA streamlining will continue through 2007. The Army is evaluating several options to consolidate its major commands, which could further reduce TDA requirements for active military personnel and introduce more efficient business practices. However, such a reorganization could be hampered without workload-based requirements. The Army's potential for streamlining TDA will also be limited by several laws and regulations, such as civilian downsizing and TDA positions that are protected from Army force reduction initiatives.

Finally, some personnel in TOE and TDA units perform similar functions which calls into question the need for separate resourcing processes. Some features of the Army's process for using TDA medical personnel to fill positions in TOE medical units may provide a model for other functions with both TOE and TDA missions.

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## Institutional Requirements Are Not Well Supported

Weaknesses in the Army's ability to fully define force requirements for the institutional Army in terms of workload are long standing and have been reported by us and the Army since the late 1970s. Workload-based management is designed to help managers determine the resources needed to complete a job and logically respond to resource cuts. For example, using workload-based management, a manager could determine how many trainers would be required to train a certain number of students in a specified period of time. Weaknesses in its program leave the Army unable to analytically support its TDA requirements or define the risks of reducing this portion of the Army forces. Further, a weak requirements

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process prevents the Army leadership from making informed choices as to possible trade-offs among TDA functions and commands based on highest priority needs.

According to Army regulation and policy, force requirements are to be logically developed from specific workload requirements derived from mission directives. Responsibility for allocating personnel resources to fulfill TDA missions belongs to the major commands. For fiscal year 1998, the Army projects its TDA force at over 123,000 military positions and over 247,000 civilian positions. Although TDA functions are carried out by military and civilian personnel depending on the type of mission, our focus was on the active military Army. Table 3.1 shows the distribution of active military TDA positions for fiscal year 1998.

**Table 3.1: Distribution of Authorized TDA Military Positions for Fiscal Year 1998**

<b>Command</b>	<b>Military TDA Positions</b>
Training and Doctrine Command	44,823
Medical Command	25,229
Forces Command	13,278
Intelligence and Security Command	6,303
Army Materiel Command	3,057
U.S. Army Europe	3,025
Special Operations Command/ Special Operations Forces	2,812
U.S. Army Pacific	2,499
Eighth U.S. Army	1,429
Military District Washington	1,381
Personnel Command	1,112
U.S. Military Academy	928
U.S. Army South	528
Corps of Engineers	505
Criminal Investigation Command	390
Other <sup>a</sup>	16,148
<b>Total Authorized TDA Positions</b>	<b>123,447</b>

<sup>a</sup>Category includes positions allocated to the Army National Guard, field operating agencies, and Joint and Defense agencies.

Source: Army force structure database as of November 1996.

In response to our 1979 report criticizing the Army for its lack of workload-based information on which to determine personnel requirements, the Army developed a workload-based personnel allocation

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system, known as the Manpower Staffing Standards System. This system was intended to determine minimum essential requirements to accomplish TDA workload and identify operational improvements to increase efficiency and effectiveness. However, command officials told us that this process was time consuming and labor intensive, taking as long as 3 years to analyze a single function, and that the standards generated by it were often obsolete by the time they were issued. In 1994, the Army Audit Agency found that, as a result of these problems and lack of management tools to collect workload data, managers were not able to effectively determine or manage their TDA workloads and thus could not be assured that limited personnel resources were being distributed to the highest priority functions.

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**Commands Employ**  
**Varying Levels of**  
**Workload-Based Analysis**

During our review, Army headquarters officials acknowledged that the Army cannot articulate its TDA force structure in terms of workload, and we found varying levels of compliance with the Army's workload-based management regulation at the major commands we contacted. The Intelligence and Security Command, with a 1998 TDA active end strength authorization of over 6,000, does not have a formal manpower study program due to downsizing and changes in workload. Allocation of TDA resources is done based on command guidance with functional staff's input. An official at Forces Command, which has a 1998 active component TDA of about 13,000, told us that workload-based manpower management had not been a high priority in recent years because of turmoil in the workforce caused by downsizing and reallocation of workload due to base realignments and closures. Forces Command has a plan to conduct a comprehensive manpower assessment at each of its installations by the year 2000. This assessment will include validating work requirements, developing manning levels based on workload, and using cross-installation comparisons of functions to establish a model for future manpower requirements determination.

TRADOC, the Medical Command, and the Army Materiel Command had more extensive workload-based management processes. Both the Medical Command and TRADOC employ workload-based standards for about 60 percent of their TDA positions and have processes to review workloads and resource allocations according to established requirements. The Army Materiel Command, which has a largely civilian workforce, began a review of all of its functions in March 1995 and completed this review of over 60,000 authorized military and civilian positions in January 1997. The review includes validating units' requirements, analyzing and projecting

workload, and applying available resources to that workload. Having visibility over the workload and the resources needed to complete it gives commanders greater control over their resources and enables them to identify inefficiencies. For example, at the Medical Command, the Surgeon General holds “bankruptcy hearings” for units that exceed established workload benchmarks.

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**Army Secretariat Is**  
**Promoting**  
**Workload-Based**  
**Management**

The Assistant Secretary of the Army for Manpower and Reserve Affairs has developed a new methodology for workload-based management that is intended to address concerns that the Army does not know how big its institutional force needs to be to satisfy its requirements. The Army’s methodology includes an analysis of (1) the work that needs to be done based on organizational mission, (2) how to improve processes through better methods, benchmarking, capital investment, automation and improved facilities, and (3) the most appropriate technique for linking people to work. In addition, the Army is pilot testing an automated system for collecting and analyzing workload information and monitoring efficiency based on time spent completing functions. Army officials told us that the system could provide managers at all levels significant visibility over TDA resources and could ultimately be used to make trade-offs among TDA functions Army-wide. The Assistant Secretary’s office is also increasing its review of major commands’ requirements determination processes.

Differing management philosophies on the use of workload-based requirements could challenge the Army-wide adoption of workload-based management. For example, one resource management official told us that he preferred across-the-board percentage cuts rather than cuts weighted according to workload, because this allows the commanders more autonomy in how they allocate their resources. In October 1996, the Assistant Secretary of the Army for Manpower and Reserve Affairs stated that a challenge to adopting workload-based management will be changing the perspective of resourcing officials from a philosophy of managing personnel resources based on budget to managing personnel resources based on workload.

Although managing to budget allows commanders to allocate resources based on available budgets, we believe that using it as the sole-allocation process does not provide the commander a vision of what cannot be done as a result of declining budgets and may discourage commands from identifying efficiencies if they know they will be receiving a cut regardless.

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In addition, managing to budget does not provide an analytical basis on which to make trade-offs among TDA workload priorities. For example, during deliberations for TAA 2001, which was completed in 1993, an attempt by major command representatives to allocate a cut in TDA positions among their commands ended in gridlock, in part due to the lack of an analytical basis on which to divide the resources. The result was that each command's TDA military positions were cut by 7.5 percent, regardless of its individual missions or requirements. Such a cut impacts some commands more than others. For example, Intelligence and Security Command officials told us that 75 percent of its officers were controlled by other agencies; therefore, it could not eliminate any of these positions. As a result, an across-the-board 7.5 percent reduction applied to Intelligence and Security Command officers fell disproportionately on the remaining 25 percent of its officers that the command had authority over.

Efforts to allocate resources based on workload will require the support of the Army leadership to be successful. The long-standing weaknesses with the Army's process, despite numerous efforts to improve it, suggest that a higher level of reporting and oversight may be warranted. However, the Army has not reported its historic lack of compliance with its workload-based allocation policy as a material weakness under the Federal Managers' Financial Integrity Act (P.L. 97-255). Policy implementing the act requires agencies to establish internal controls to provide reasonable assurance that programs are efficiently and effectively carried out in accordance with applicable law and policy. One criterion for determining whether an internal control weakness is material is if it significantly weakens safeguards against waste. If lack of workload analysis, which does not comply with Army policy and does not safeguard against waste, was reported to the Secretary of Defense as a material weakness, the Secretary of the Army would be required to develop a corrective action plan with milestones for completion. As required by OSD guidance, responsible OSD officials would then need to assess whether this problem is a DOD-wide systemic weakness and whether it is a weakness of sufficient magnitude to be reported in OSD's annual statement of assurance to the President and Congress.

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**The Army Is**  
**Streamlining Its**  
**Institutional Force**

Despite the lack of workload data to define specific requirements of the TDA force, the Army is re-engineering its processes and redesigning the overall TDA organization through a series of streamlining initiatives. Although these efforts have some aspects that are similar to workload analysis, these are one-time, Army-wide assessments intended to provide a

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forum for re-engineering many Army functions. The Army defines re-engineering as a “fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance.” In contrast, workload management is a tool for conducting more micro-levels of analysis on a unit-by-unit basis.

The streamlining and re-engineering effort, known as the Force XXI Institutional Army Redesign, is one component of the overall Force XXI redesign. The other two components are the redesign of the combat forces and an effort to incorporate information age technology into the battlefield. The institutional redesign will take place in three phases to correspond with presidential budget cycles. Phase I, completed in March 1996, resulted in modifications to the 1998-2003 Army Program Objective Memorandum. Phases II and III will be completed in time to update the 2000-2005 and the 2002-2007 budgets, respectively.

As a result of the phase I reviews of TDA missions, to include acquisition, training, mobilization, recruiting, personnel management and redesign of the Department of Army Headquarters, the Army eliminated 13 headquarters offices, realigned a major command, and identified almost 4,000 active military positions that will be cut from TDA and transferred to the TOE end strength between 1998 and 2003. Before the TDA cuts were identified, TAA 2003 applied 2,000 TDA positions to unmet support force requirements in anticipation of the streamlining results. Officials told us that the remaining 2,000 positions will also be transferred to the deployable portion of the force to fill shortages in units that are at less than full strength, although they could not specify the units. Furthermore, many of the 4,000 positions that are being shifted are based on initiatives that have not been fully tested or approved. Thus, the expected savings are not assured.

The largest single planned transfer of 2,100 positions is the result of an Army proposal to replace active TDA military assigned to the Senior Reserve Officer Training Corps with reserve component, noncommissioned and retired officers. This proposal is being studied by TRADOC and would require a change in legislation to authorize the use of retired and additional reserve personnel, according to the Army. If pilot testing shows the concept is infeasible, or if the legislative enabler the Army is proposing is not passed, the Army would need to find a means to accomplish this function since it has already taken these TDA reductions. In

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another example, the Army anticipates reducing attrition,<sup>1</sup> thereby freeing up 750 TDA positions associated with training and recruiting. The Army's plan to reduce attrition is based primarily on establishing an advisory council to provide commanders with attrition statistics and review policies that impact attrition. As a result, the Army cannot be certain that the anticipated TDA transfers can be realistically accomplished.

**Ongoing Organizational  
Reviews Could Reduce  
TDA Positions**

The Army's efforts to streamline its institutional force are linked to a conceptual model delineated in a draft Department of the Army Pamphlet, 100xx entitled "Force XXI Institutional Force Redesign." The model identifies the core competency of the TDA force, divides this competency into 4 core capabilities, and divides the 4 capabilities into 14 core processes, as shown in table 3.2.

**Table 3.2: Core Competency, Capabilities, and Processes of the Institutional Army**

<b>Core competency</b>	<b>Core capabilities</b>	<b>Core processes</b>
Create, provide and sustain the land component of the combatant commander's joint/multinational force	Direct and resource the force	Planning and policy development Direction and assessment Financial management Information management
	Develop the force	Develop doctrine Devevelop requirements Acquire and sustain individuals Identify and develop leaders
	Generate and project the force	Tailor, mobilize and project land power Support organizational training
	Sustain the force	Acquire, maintain, and sustain equipment Maintain and sustain land operations Acquire and sustain facilities Operate installations

Source: Department of the Army Pamphlet 100xx (final draft as of October 15, 1996).

The Army plans to align its organizations around the core capabilities and core processes, so that there would be one office with lead responsibility for each process. For example, under the current structure, several commands, including TRADOC, the Intelligence and Security Command, and U.S. Army, Europe, have responsibility to develop Army doctrine. Under

<sup>1</sup>Attrition is defined as a soldier leaving the Army before his or her term of enlistment has expired.

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the streamlined model, TRADOC would have the lead responsibility for doctrine writing.

The Army will use this framework to align the TDA organization with core processes. The Army has developed three organizational models that would reduce the number of major commands and are intended to eliminate duplication, establish clearer lines of authority, streamline resource management, and could further reduce TDA military personnel. For example, one model would reduce the Army from its current structure of 14 major commands to a total of 10 commands, with 3 major commands and 7 Army service component commands to support the CINCS. The three major commands would be aligned to the “Develop the Force,” “Generate and Project the Force,” and the “Sustain the Force” core capabilities with the Department of the Army Headquarters assuming responsibility for the “Direct and Resource” capabilities. However, these models are illustrative and were presented as a starting point for further discussion and do not directly address shortfalls in defining requirements based on workload. As such, officials said they could not provide a specific date on which any of these models would be in place or estimate how many positions might be saved through streamlining.

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**Army Must Consider**  
**Legislative and Regulatory**  
**Guidance When**  
**Streamlining TDA**

Additional streamlining of the Army’s TDA force must accommodate limitations from legislative, regulatory, and budgetary guidance. These actions can influence the size and composition of the institutional Army force, but are outside the Army’s span of control. For example, DOD’s ongoing civilian drawdown limits the Army’s ability to convert military positions to generally less expensive civilian positions. In 1994 and 1996, we reported that there were opportunities for the Army to convert certain enlisted and officer support positions from military to civilian status, but to overcome impediments to conversion, the Secretary of Defense would need to slow the civilian drawdown, or the Congress would need to reprogram funding.<sup>2</sup> Further, officials in the commands we visited pointed to budgetary challenges to converting military positions to civilians. First, the commands are reluctant to convert military positions to civilian positions because they cannot be assured that operations and maintenance money, which funds civilian pay, will be available to hire a new civilian. Officials told us that the transfer of a military position to a civilian position is authorized years before the civilian is hired and sometimes by the year of execution, inadequate operations and

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<sup>2</sup>DOD Force Mix Issues: Greater Reliance on Civilians in Support Roles Could Provide Significant Benefits (GAO/NSIAD-95-5, Oct. 19, 1994) and DOD Force Mix Issues: Converting Some Support Officer Positions to Civilian Status Could Save Money (GAO/NSIAD-97-15, Oct. 23, 1996).

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maintenance funding prevent the command from hiring a new civilian. Second, local commanders have a disincentive to civilianize because civilian positions are paid in full from the installation's budget while military personnel are paid out of the Army's centralized military personnel budget.

Also, some active military TDA positions are required by law or controlled by other agencies. As a percentage of the active component TDA force, these positions, sometimes referred to as "fenced" positions, will have increased from 29 percent in 1991 to a projected 37 percent in 2001. For example, the National Defense Authorization Act for Fiscal Year 1991 restricts the Secretary of Defense from reducing medical personnel without providing certification to Congress that the number reduced is in excess of that required and that the reduction would not cause an increase in costs to those covered under the Civilian Health and Medical Program of the Uniformed Services. Positions controlled by other agencies include those assigned to the National Foreign Intelligence Program. Under executive order, these positions are required and budgeted by the Director of Central Intelligence and cannot be reallocated without his permission. Table 3.3 summarizes the major categories of fenced positions and the change from 1991 to 2001.

**Table 3.3: Comparison of "Fenced" TDA Positions, 1991 and 2001**

Category	1991 End strength		2001 End strength	
	Number of TDA	Percent of TDA	Number of TDA	Percent of TDA
National Foreign Intelligence Program	11,276	7	7,719	6
Special Operations Forces	2,326	1	2,863	2
Joint	5,108	3	5,039	4
Defense Health	30,123	18	25,096	20
Active Component Support to the Reserves	0	0	5,000	4
<b>Total fenced positions</b>	<b>48,833</b>	<b>29</b>	<b>45,717</b>	<b>37</b>
<b>TDA</b>	<b>169,605</b>	<b>100</b>	<b>125,120</b>	<b>100</b>

Source: The 1991 and 1997 Army submittals to President's Budgets.

Although fencing ensures that selected high-priority missions are adequately staffed, to the extent positions are fenced, the Army must disproportionately reduce other non-fenced TDA categories to absorb across-the-board reductions.

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## **Division Between TOE and TDA Is Becoming Less Distinct**

The distinction of a deployable TOE force and a nondeployable TDA force is becoming less clear and calls into question the necessity of maintaining separate processes to allocate personnel resources. The draft Army Pamphlet 100xx acknowledges a blurred distinction between operational and institutional forces because institutional forces are increasingly being called on to perform tactical support functions in areas such as intelligence, communications, transportation, logistics, engineering, and medical support. For example, an Intelligence and Security Command official told us that all of its TDA military personnel along with almost 600 civilians at the command are considered deployable. At Forces Command, we were told that TDA personnel assigned to directly support a TOE unit are expected to deploy with that unit. Another example is military police. In recognition of historical deployments of TDA military police to support law and order operations in theater, the Army plans to convert 1,850 TDA military police positions to TOE. The initiative would establish modular military police organizations that would be designed to provide capabilities in peace, conflict, and war.

However, with the exception of medical, TDA specialties with potential use in a deployment are not considered available to be distributed among requirements in the TAA process. TAA does not model the relative risks of reducing TDA units compared to reducing below-the-line support TOE units. Nor does it consider trade-offs between below-the-line support units and support units embedded in combat divisions. Thus, the Army could overstate the risk of shortages in a below-the-line TOE branch, when in practice, TOE support units in combat divisions or TDA personnel are capable of performing similar functions. A unified resourcing process would give the Army visibility over all capabilities available to complete its missions, regardless of their classification as TOE or TDA.

The Army's process for handling medical requirements may provide a model for functions that are resident and required in both TOE and TDA forces. During peacetime, some deployable hospitals are maintained by a small cadre of personnel. During deployments, these hospitals are filled in with designated TDA medical personnel whose peacetime TDA mission is to staff Army medical treatment facilities. Medical reservists are in turn called up to back fill the medical treatment facilities. In TAA 2003, about 5,000 requirements were filled with predesignated TDA medical positions. While it may not be feasible to back fill certain specialties with reservists, two features of the medical model could be reviewed for broader application. First, the medical model formally recognizes and quantifies the dual duties of personnel assigned to TDA functions in peacetime but

expected to deploy in operations. Second, it gives visibility to all medical assets, regardless of their classification as TOE or TDA forces.

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## Conclusions

Army initiatives to analytically define and allocate TDA resources according to workload have not been effective. Although ongoing initiatives show some promise, they will require significant support by the Army leadership. If implemented, workload-based management could identify opportunities to streamline TDA functions and ensure that active military positions are allocated most efficiently.

Of the potential 4,000 required positions for transfer to TOE by the Force XXI institutional redesign, many are contingent on Army plans that have either not been finalized or that are difficult to quantify. As a result, the anticipated reallocation should be viewed with caution. There is potential for further savings as the Army streamlines its TDA by aligning the organization with TDA core processes; however, streamlining may be limited by legislative, regulatory, and budgetary guidance.

The reliance of TOE units on TDA personnel to complete missions calls into question the need for separate resourcing processes. A more unified process would permit the Army to consider how it can best meet requirements from a wider range of personnel at its disposal. In addition, it would allow for better management of personnel resources—one of the Army's most expensive budget items.

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## Recommendations

To improve the management and allocation of personnel resources to the institutional Army, we recommend that the Secretary of the Army

- report to the Secretary of Defense the Army's long-standing problem with implementing workload-based analysis as a material weakness under the Federal Managers' Financial Integrity Act to maintain visibility of the issue and ensure action is taken and
- closely monitor the military positions the Army plans to save as the result of Force XXI initiatives and have a contingency plan in place in the event that these savings do not materialize.

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## Agency Comments and Our Evaluation

DOD's comments on these recommendations appear in appendix V. DOD agreed that the Secretary of the Army should report its long-standing problems in managing its institutional personnel as a material weakness

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under the Federal Managers' Financial Integrity Act and develop a sound basis for allocating resources to these functions. As part of this effort, the Army intends to assess the potential benefit to the Army of new workload-based management tools being pilot tested by an office of the Assistant Secretary of the Army. DOD also concurred with our recommendation that the Secretary of the Army closely monitor the military positions saved under Force XXI. The Army's intent is to apply any such savings to authorization shortfalls in existing support units. However, the Army acknowledges that it is too soon to speculate on the size of any future savings.

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# A Smaller Active Army Support Force Does Not Appear Feasible at This Time, but a Smaller Combat and TDA Force May Be Possible in the Future

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Reducing active Army support forces does not appear feasible now based on TAA 2003 results, which show that the Army cannot meet its early deployment needs. But a smaller combat and TDA force may be possible in the future, based on ongoing Army initiatives and efforts under way to review U.S. defense strategy and forces.

Nevertheless, OSD's current position on active Army end strength was not supported by detailed analysis. OSD cited potential end strength savings from the Army's Force XXI streamlining initiatives as a basis to reduce the Army's end strength to 475,000. However, while Force XXI's emphasis on digitization and more efficient logistics practices may achieve end strength savings in the long term, these savings do not appear likely to occur by 1999, the time frame OSD established to achieve the 20,000 position drawdown. Following its decision to reduce the Army by 20,000 positions, OSD reviewed TAA 2003 results. OSD's study questioned the Army's determination of its support requirements but did not examine downsizing of the active Army.

OSD's assessment of the appropriate size of the active Army could change as a result of the congressionally mandated Quadrennial Defense Review. DOD is expected to assess a wide range of issues, including the defense strategy of the United States, the optimum force structure to implement the strategy, and the roles and missions of reserve forces. The number of divisions required or the mix of heavy and light divisions may change if a new strategy is adopted. Also, options may exist for restructuring the Army's active divisions by integrating some reserve forces. Options to expand the role of the reserves would have the effect of reducing requirements for active combat forces.

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## OSD Did Not Base Its Plan to Reduce the Army's End Strength on Detailed Analysis

In April 1995, to free resources for modernization programs, OSD directed the Army to reduce its end strength by 20,000 no later than 1999. This guidance was reflected in DOD's 1997 FYDP, which reduced the Army's active force by 10,000 positions in both 1998 and 1999, along with related military personnel funding. However, in March 1996, the Army Chief of Staff testified that the active Army should not get any smaller. Instead, the Army planned to identify savings within its own budget sufficient to avoid the 20,000 position reduction.

A memorandum from the Secretary of Defense cited the Army's Force XXI initiative as the means by which the Army would identify efficiencies to reduce the force. However, according to Army documentation, Force

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XXI's primary focus is to increase capability by leveraging technology, not to attain specific end strength reductions. The Army is experimenting with ways to streamline its TOE forces through its Force XXI redesign of its combat divisions, known as Joint Venture. For example, Joint Venture's focus on increasing situational awareness by digitizing the battlefield and better managing logistics could reduce the size of Army divisions. However, the division redesign is not yet finalized and will not be fully implemented until 2010. The Army's streamlining of its TDA force under Force XXI has identified about 4,000 excess active military spaces, but the Army plans to reallocate those spaces to fill unmet requirements in active TOE support forces.

The Army's efforts to streamline TDA under Force XXI, and additional streamlining initiatives and policy changes proposed by Army leadership, enabled the Army to increase its military personnel account throughout its fiscal year's 1998-2003 Program Objective Memorandum to pay for the 20,000 spaces eliminated in DOD's 1997 FYDP. Based on Army projections, we estimate that from 1998 to 2003, the Army will need about \$3 billion in savings to pay for the 20,000 positions. The Army has identified almost \$9 billion in savings over that same period, but considers only about \$2 billion of those savings as finalized; the remaining \$7 billion will require coordination and oversight among several Army organizations to be realized. For example, recommendations to reduce logistics costs, including reductions in acquisition lead time and spare parts inventories, account for over \$2 billion in savings and will result in overhead cuts to the logistics community. The benefit of the overhead cuts will be realized by the commands through lower logistics costs. An Army official told us that such a disconnect between the entity doing the cutting and the entity receiving reductions in cost could make some of the initiatives difficult to manage. Further, some of the savings are based on across-the-board cuts to headquarters overhead that are not analytically based.

As discussed in chapter 3, the Army has identified a potential to reduce its TDA force by 4,000 active military positions as a result of its initial Force XXI streamlining initiatives. Ongoing streamlining initiatives could further reduce TDA requirements for active military personnel.

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## **OSD Assessment of TAA 2003 Did Not Address Active Army End Strength**

As a separate initiative, OSD reviewed TAA 2003's methodology and results, but did not examine the issue of active Army end strength. OSD questioned whether the Army's 672,000 TOE requirement was high based on its analysis of selected TAA assumptions and model inputs, and its comparison of Army support requirements based on TAA to those used in a 1995 DOD war game known as Nimble Dancer. OSD's assessment was limited to an analysis of TOE forces, both active and reserve, and did not consider the question of availability of reserve forces during the first 30 days of a conflict, as did the Army's TAA analysis. Nor did OSD assess another risk factor the Army deemed important, availability of active forces for the second MRC. The OSD study did not recommend a smaller Army, but did ask it to study some issues that affect the size of its TOE force.

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## **OSD Questioned TAA Model Inputs and Assumptions**

The Army did not agree that its support force requirements were high. However, at the direction of the Deputy Secretary of Defense, the Army did agree to review model inputs and assumptions that OSD questioned and to determine the impact of any changes on the size of the Army's support forces. The Army also responded that it would make adjustments to TAA 2003 results if any errors were identified. Among OSD's principle concerns were the following:

- Casualty estimates. OSD questioned whether the TAA models produced valid casualty estimates because of variances between Army casualty estimates and actual casualties experienced in battles dating back to World War II. Army casualty estimates are not used to size the Army medical force, but do influence support requirements in the theater of operations such as for quartermaster and engineer branches.
- Fuel consumption. OSD questioned whether Army fuel consumption rates were high based on a review of actual fuel issued to units during the Gulf War.
- Host nation support. OSD believed the Army could reduce its active support requirements by placing greater reliance on support from host nations. Currently, the Army reduces its unmet requirements by the amount of host nation support it expects to receive, based on signed agreements. (See chapter 2 for a discussion of material weaknesses in DOD's host nation support program.)

The Army has arranged for an independent analysis of its casualty estimation methodology and has asked the Director of the Joint Staff to query the CINCS concerning the availability of additional host nation

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support. The Army is conducting its own detailed analysis of its fuel consumption rates.

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**OSD Believes TAA**  
**Requirements Are High**  
**Compared to Nimble**  
**Dancer**

OSD used the 1995 DOD war game Nimble Dancer to evaluate the reasonableness of the Army TOE requirements. By comparing the Nimble Dancer Army force level requirement of 457,000 TOE spaces to the TAA 2003 Army-generated war fight requirement of 672,000 TOE spaces (195,000 combat and 477,000 support forces), OSD identified a potential overstatement of 215,000 spaces. After adjusting for different assumptions used in TAA 2003 and Nimble Dancer, OSD concluded that the Army TAA 2003 requirements were high.

While there may be insights to be gained by analyzing some aspects of the Nimble Dancer war game, we believe comparing the Army's TAA 2003 force requirements against the Nimble Dancer force is problematic. In Nimble Dancer, DOD identified the availability of sufficient support forces as critical to the outcome of the conflict and determined that shortages could delay the start of the counterattack in the second MRC. However, as we noted in our June 1996 report on Nimble Dancer,<sup>1</sup> DOD did not model or analyze in detail the sufficiency of support forces during the war game. For purposes of its baseline modeling, DOD assumed that support forces would accompany combat units when they deployed. Game participants held discussions concerning the impact of support force shortfalls, but deferred further analysis to the Army's TAA 2003. The 457,000 spaces OSD used as a baseline for comparison to TAA 2003 was a notional Army force based on TAA 2001 and its purpose was to assess mobility, not end strength, requirements. Only the combat forces were played in the war game itself. Given the limited consideration given to support forces in Nimble Dancer, we do not believe comparisons with Army TAA 2003 are meaningful.

Although OSD asserts that Army support requirements are high, it endorsed the concept of converting reserve positions from combat to support to fill the Army's unmet requirements. These conversions were recommended by us in past reports, the Commission on Roles and Missions and most recently in a National Guard Division Redesign Study.

In addition to the studies previously mentioned, the Deputy Secretary of Defense directed OSD analysts to assess whether DOD has sufficient

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<sup>1</sup>Bottom-Up Review: Analysis of DOD War Game to Test Key Assumptions (GAO/NSIAD-96-170, June 21, 1996).

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mobility assets to move (1) the Army's full TOE requirement of 672,000, and (2) the force actually planned in the Army's fiscal year's 1998-2003 Program Objective Memorandum. In particular, the Deputy Secretary is interested in how scenario timelines would be affected if mobility assets are constrained to those actually planned. During TAA 2003, the Army relied on the Mobility Requirements Study Bottom-Up Review Update to establish available lift to move forces to theater. This was consistent with Secretary of Defense guidance.

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## **Quadrennial Defense Review May Impact Army Active Military Personnel Requirements**

The National Defense Authorization Act for Fiscal Year 1997 requires DOD to conduct a Quadrennial Defense Review by May 15, 1997. An independent panel of defense experts will submit a comprehensive assessment of DOD's report and conduct an assessment of alternative force structures by December 1, 1997. In conducting its review, DOD must assess a wide range of issues, including the defense strategy of the United States, the force structure best suited to implement the strategy, the roles and mission of reserve forces, the appropriate ratio of combat forces to support forces, and the effect of OOTWS on force structure. The number of Army divisions or the mix of heavy and light divisions may change as a result of this study, particularly if a new strategy is adopted. For example, a strategy that places more emphasis on OOTWS might result in an active Army that has fewer heavy divisions and assigns a higher percentage of its active forces to support units. The review will also provide an opportunity to reassess the role of the Army's reserve forces. For example, as a result of the BUR and the Army's experience in the Persian Gulf War, the Army discontinued its reliance on reserve component "round-up" and "round-out" brigades to bring the active divisions to full combat strength during wartime. However, options may exist to adopt some variant of this concept, such as integrating reserve forces at the battalion level or assigning reserve forces a role in later deploying active divisions. Options to expand the role of the reserves would have the effect of reducing requirements for active combat forces.

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## **Conclusions**

OSD did not support its plan to reduce the Army's active end strength with detailed analysis. OSD's assessment of TAA 2003 identified issues worthy of further analysis, but did not draw conclusions about the size of the active Army.

Future active Army end strength will likely be affected by several ongoing Army streamlining initiatives, and potential changes to military strategy

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and the role of reserve forces resulting from the upcoming Quadrennial Defense Review. TDA streamlining may identify additional opportunities to reduce active TDA personnel by reducing the number of major commands and adopting broader use of workload analysis. Force XXI's emphasis on digital technology and just in time logistics may result in smaller combat divisions in the future. Other options for restructuring combat forces include reassessing the mix of heavy and light divisions and assigning reserve forces a role in later deploying active divisions. However, given the risks the Army has accepted in its active support forces, we do not believe it is feasible for the Army to reduce its active support forces at this time.

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**Agency Comments**  
**and Our Evaluation**

In addition to DOD's official agency comments (see app. V), the Army provided technical comments on a draft of this report concerning the role of reserve forces in any new strategy proposed by the Quadrennial Defense Review. The Army believes that the use of round-up/round-out brigades is a Cold War concept not viable for an early response power projection force. However, the Army says it is currently studying options to employ "multi-component" units, that is, combining an active unit with an associated reserve unit that is organized with fully trained personnel and minimal equipment. Upon mobilization, associate units would deploy and augment the active component unit, or earlier deploying reserve component units, increasing their capability by adding qualified personnel.

Our report does not recommend a return to the round-up and round-out concept used in the past. Rather, our intention was to suggest that there may be a variant of this concept that would allow the Army to make greater use of its reserve forces. The Quadrennial Defense Review provides an opportunity for such new concepts to be considered. We have not reviewed the multi-component concept currently being analyzed by the Army, but agree that new approaches that better integrate the Army's active and reserve forces and optimize the use of available equipment should be explored.

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# The TAA Process

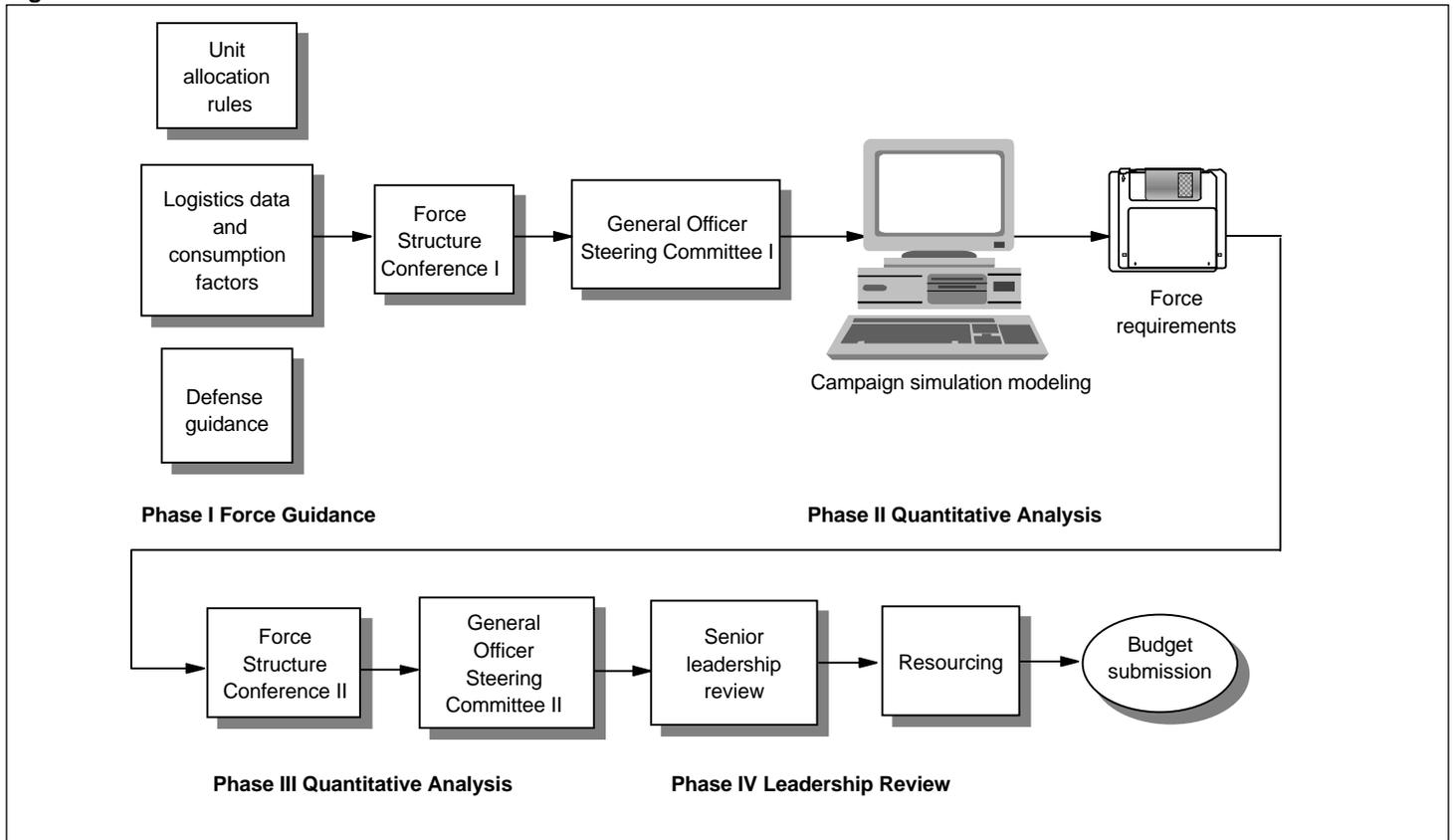
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The Total Army Analysis (TAA) is a phased force structure analysis process that the Army conducts biennially to determine its support force requirements. TAA does this by modeling a theater-level war fight for a combat force. This combat simulation considers and generates information on a multitude of planning factors and consumption rates, including ammunition, equipment repair, and casualty rates; unit arrival dates; and geographical characteristics of the theater. Military judgment then is applied to this quantitative analysis to produce the Army's support force required to (1) execute the national military strategy as set forth in the defense guidance, (2) compare the program force to war-fight requirements, and (3) enable the Army to make force programming decisions which balances war-fighting risk and resource constraints.

Initial broad guidance for TAA is provided by the Office of the Secretary of Defense (OSD) and the Joint Staff. This guidance includes the number, size, and type of combat forces; troop strength levels in Europe and Korea; Army funding levels; and representative war-fight scenarios. The focus of TAA is primarily to support the theater war fight outlined in the defense guidance MRC scenarios. No allowances are made for other contingency requirements, such as Bosnia, or training, mobilization, and deployment requirements.

There is substantial qualitative review of model results in the form of Army-wide conferences. These conferences are attended by colonel- and general officer-level representatives from the Army Staff, the major commands, schools and integrating centers, the war-fighting CINCS, the National Guard Bureau, and Office of the Chief of the Army Reserves. This broad participation is intended to ensure accuracy, credibility, and acceptance of TAA results throughout the Army. The final product of TAA is the approved force structure baseline of the Army, the Army's Program Objective Memorandum force. TAA consists of four phases: Phase I, Force Guidance; Phase II, Quantitative Analysis; Phase III, Qualitative Analysis; and Phase IV, Leadership Review and Program Objective Memorandum Development. These phases are depicted in figure I.1.

Figure I.1: The TAA Process



## Phase I, Force Guidance

Phase I is the forum where all model input and planning assumptions are reviewed and approved. Two key data sources are the Army's force planning data and assumptions (AFPDA) and unit allocation rules. The AFPDA is a single-source document that the Army relies on for developing planning factors for its theater-level studies such as TAA. The AFPDA contains logistics data and information on consumption rates for all classes of supply based on the intensity of the war fight. Data regarding threat and allied forces, support to and from other services, and other planning factors crucial to force structure development also are considered. Unit allocation rules translate the capabilities of specific support units into quantitative statements of a unit's capability, mission, and doctrinal employment as it applies to a specific scenario. Over 1,500 different allocation rules were applied in TAA 2003 for each theater.

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The three principal unit allocation rules are existence, workload, and manual. An existence-based rule allocates units depending on the existence of other units. For example, for each division in a corps there are two military police companies. A workload-based rule ties unit requirements to a measurable task. For example, for every 30,000 personnel there is one post office. Workload driven requirements can vary according to the nature of the threat, the environment (e.g., arid conditions require more water for consumption), lines of communication, and other factors. A manual-based rule allocates units without a standard basis, to reflect a theater's physical or organizational structure. For example, allocating a number of units to link communications systems based on a theater's geographic characteristics and the number of headquarters needing such connectivity. Phase I does not differentiate between active and reserve forces when establishing the force requirements.

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## Phase II, Quantitative Analysis

During phase II, the Army employs a suite of campaign simulation models to estimate the number and type of support forces required to sustain the combat force, unconstrained by available resources. A strategic mobility analysis is performed to determine the arrival times of Army forces in theater and identify strategic mobility shortfalls. This is followed by a theater campaign analysis to gauge force movement and unit strength over time, as well as personnel and equipment losses. Outputs from these models, along with approved unit allocation rules and logistics data, are used to determine support force requirements using the Force Analysis Simulation of Theater Administration and Logistics Support (FASTALS) model. FASTALS generates the required support forces by type, quantity, when they are needed in theater, and their supply requirements. The support forces identified by FASTALS are then matched to actual Army support units using other models. The matching process contains an embedded logic that guides unit assignment. For example, it ensures that active units are applied to forward stationed requirements. Army units are applied toward requirements until the unit inventory is exhausted. The difference between the required force and the inventory of actual Army units is evaluated during phase III.

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## Phase III, Qualitative Analysis

During phase III, the initial Army Program Objective Memorandum force is developed, constrained by upfront end strength and fiscal guidance. During this phase, the FASTALS-generated support force requirements and the analysis of those requirements are validated. Units that cannot be

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matched to war-fight requirements are characterized as either (1) strategic reserve (such as the 8 Army National Guard divisions and certain enhanced brigades); (2) unique (such as units in Europe and Panama that perform unique strategic, allied, or national missions, and the Old Guard); or (3) excess forces that do not match up with a war-fight requirement.

Where possible, these excess forces are converted to match a corresponding war-fight requirement. Each specialty is analyzed to determine the effect of resourcing units at less than their full requirement, and the active reserve force mix is examined on a case-by-case basis. Conference participants discuss approaches to mitigate risk and establish priorities among competing requirements for limited resources.

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**Phase IV, Leadership  
Review and Program  
Objective Memorandum  
Development**

During phase IV, a force program review is convened to resolve any support force resourcing issues not resolved in phase III. This review is chaired by the Army Vice Chief of Staff. The approved force structure is forwarded to the Army Chief of Staff for final approval as the base force for programming resources for the Army's Program Objective Memorandum.

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# Reserve Mobilization Process

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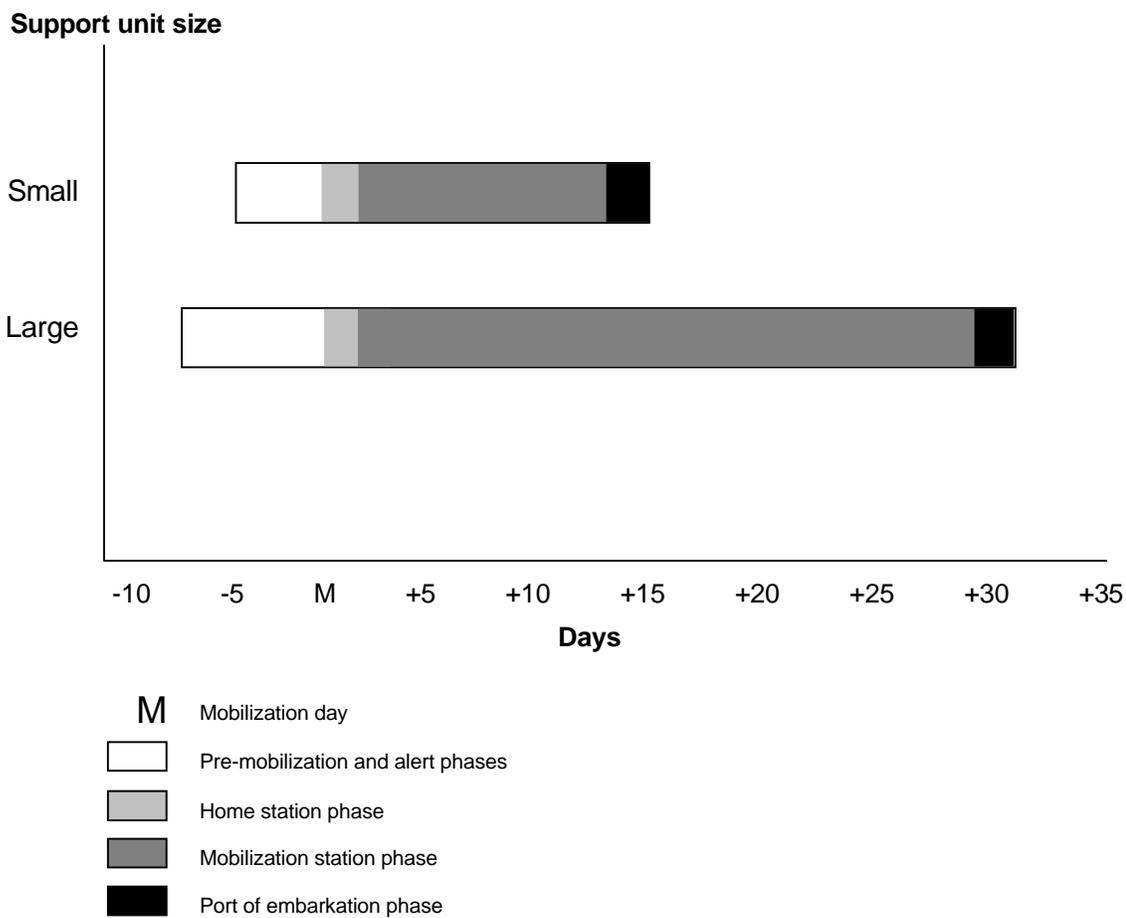
The Army estimates that mobilizing reserve forces, from unit recall to arrival at the port of embarkation, takes about 15 days for a small support unit and 31 days for a large unit. Representative tasks associated with the mobilization process follow. The time it takes to complete them are presented in figure II.1.

- Pre-mobilization phase
  - Maintain personnel mobilization packets.
  - Ensure medical and dental examinations are current.
  - Ensure personnel have required security clearances.
  - Complete family care plans.
  - Screen personnel for members not available for mobilization.
  - Prepare and maintain a unit alert roster.
  - Establish liaison with the mobilization station.
  - Ensure continual maintenance of all equipment.
- Alert phase
  - Coordinate mission related travel.
  - Identify advance party members.
  - Screen and promote eligible personnel.
  - Order unit members to active duty.
  - Respond to press inquiries.
  - Prepare and submit property requisitions.
  - Prepare and assemble logistics documentation.
  - Request convoy movement frequencies.
- Home station phase
  - Identify medically disqualified personnel.
  - Verify financial and insurance options.
  - Conduct personal affairs briefing.
  - Prepare unit status report.
  - Conduct physical inventory of all assigned property.
  - Prepare security clearance rosters.
  - Process record of emergency data.
  - Verify identification cards and tags.
- Mobilization phase
  - Move personnel to the mobilization station.
  - Conduct medical and dental exams.
  - Ensure all administrative and finance matters are in order.
  - Conduct training assessment and schedule training.
  - Perform individual and unit level training.
  - Perform theater-specific and new equipment training.
  - Perform required maintenance of unit equipment.
  - Pack and load.

**Appendix II  
Reserve Mobilization Process**

- Port of embarkation phase
  - Move equipment to the seaport of embarkation.
  - Move unit to the airport of embarkation.

**Figure II.1: Reserve Mobilization Timeline**



# Comparison of TAA 2001 and TAA 2003 Unmet Requirements Data

Branch	Units required that exist only on paper <sup>a</sup>		Total Positions <sup>a</sup>	
	TAA 2001	TAA 2003	TAA 2001	TAA 2003
Quartermaster	209	158	11,749	21,295
Transportation	230	122	30,244	20,370
Air Defense	31	10	8,604	4,266
Signal	12	16	3,958	4,084
Engineer	323	759	2,720	2,860
Medical	32	39	1,231	1,986
Artillery	26	2	2,379	1,150
Armor	0	2	0	1,100
Chemical	3	4	327	674
Special Operations Forces	20	0	3,660	0
Personnel Service Support	82	104	1,180	347
Theater/Corps Headquarters	104	94	276	188
Ordnance	184	22	2,965	102
Aviation	1	0	298	0
Combat Service Support	1	0	193	0
Military Intelligence	3	0	444	0
Military Police	1	0	176	0
Multifunctional Logistics and Headquarters	1	0	115	0
<b>Totals</b>	<b>1,263</b>	<b>1,332</b>	<b>70,519</b>	<b>58,422</b>

<sup>a</sup>TAA 2001 and TAA 2003 were developed using different defense guidance and end strength numbers, thus their results cannot be directly correlated.

# Key Assumptions Used in TAA 2003

**TAA 2003 assumption**

Active Army end strength will be 495,000.

The Army will have 10 active Army combat divisions, 15 National Guard enhanced brigades, and 8 National Guard divisions, as specified in defense guidance.

The Army will employ all 10 of its active divisions and some enhanced brigades in the two-MRC scenario.

TOE requirements (both combat and support) are based on units resourced at 100 percent of their personnel authorizations (full authorized level of organization).

Units due to arrive in theater in the first 30 days of the first MRC will be predominantly in the active component.

Operations other than war (OOTW) force requirements will not be added to the two-MRC force requirements. Rather, adjustments will be made within the two-MRC requirement to satisfy the needs of OOTWs.

There will be no force requirement for casualty replacements.

Host nation support will be considered if stipulated in signed agreements with the host nations' military/political leadership. This support is considered in the resourcing phase of TAA, not in requirements determination. An exception to this rule is positions attributed to pipeline usage and the handling of some enemy prisoners of war. These positions are assumed to be filled by host nations and are not given visibility in either requirements determination or resourcing.

The TOE requirement for two MRCs will be based on the use of uniformed military personnel (active and reserve) only. TAA 2003 will not consider the potential use of contractor personnel.

All of the modernization force enablers identified in defense guidance will be available on time and in the quantities programmed.

**Army rationale**

The Army reached its 495,000 active end strength target in fiscal year 1996 and assumed that this end strength would be maintained through fiscal year 2003. Since OSD announced its intention to reduce Army end strength by 20,000 during the TAA 2003 process and did not provide guidance on the composition of the proposed 475,000 active force, the Army opted to retain its 495,000 active end strength for TAA 2003.

TAA 2003 requirement for two MRCs will consider only those units with a war-fight mission, which can reasonably be expected to deploy to theater.

Army National Guard divisions and remaining enhanced brigades are considered a strategic reserve to respond to adverse situations.

Doctrinally correct TOEs for combat and support forces were modeled in TAA 2003. However, adjustments were made, reducing TOE requirements from 690,000 to 672,000.

This is consistent with defense guidance. The Army determined that time delays associated with the call-up and mobilization of reserve forces generally preclude their arrival in theater in the first 30 days. The Army estimates that a large support unit would be available in 31 days after mobilization, and a small support unit would be available in 15 days. This does not count transit time to the theater for personnel and equipment.

According to defense guidance, the Army can base its TOE requirements on either two nearly simultaneous MRCs or on one MRC and one OOTW, whichever produced the greater force requirement.

Although the Army does not include casualty replacements in calculating its force requirements, the TAA war-fight model estimates their numbers. If individual replacements were needed, they would likely be drawn from active soldiers who had just completed their introductory training or from the Individual Ready Reserves.

The Army wants assurances that its support needs in the early stages of the war fight will be met and is unwilling to accept the risk that the host nation may not make that support available in the time frames required. In the absence of formal agreements, the Army will consider some host nation support as offsets to unfilled requirements during the TAA resourcing phase.

The Army is reluctant to offset its TOE requirements with contractor personnel because it cannot foresee the status of contracts 9 years into the future.

These force enablers include strategic lift, additional prepositioned equipment in theater, and increased stocks of antiarmor precision-guided munitions.

(continued)

**Appendix IV  
Key Assumptions Used in TAA 2003**

<b>TAA 2003 assumption</b>	<b>Army rationale</b>
The Army will have immediate access to ports and airfields in the theaters of operation.	Defense guidance assumes U.S. forces will have immediate access to ports and airfields. An excursion run in TAA 2003 in which immediate access was denied indicated additional support force requirements.
There will be no delays or degradation of capability resulting from the transfer of support forces from an OOTW to an MRC.	Defense guidance assumes that U.S. forces assigned to an OOTW are immediately available to redeploy to an MRC. An excursion was run in TAA 2003 in which the Army tested whether it has sufficient active support force structure for the first 30 days of an MRC while involved in a significant OOTW. Results indicated that force requirements do not increase significantly.
No additional requirement will be provided for post-hostility operations.	This is consistent with defense guidance. The Army assumed that the forces needed for post-hostility operations would be drawn from the force structure needed to execute the two MRCs.
Medical support requirements will be based on casualty and disease, nonbattle injury rates and on the theater medical evacuation policy.	The TAA war-fight model generated casualty estimates for combat troops; algorithms were used to apply casualty rates to support personnel. Disease, nonbattle injury rates were set by the Army Surgeon General.
Unique force structure requirements outside of the two-MRC scenario will not be included in the 672,000 TOE war-fight requirement.	The Army allocates resources to unique force structure requirements and then applies remaining resources to the war-fight requirement.
Active units will arrive in theater on time.	The Army assumes that strategic lift force enhancers have been implemented on schedule, thus permitting active forces to arrive on time.
No force requirements will be added for support to coalition partners.	The Army did not add force requirements to support coalition partners in TAA 2003 because it cannot quantify their needs. Historically, the Army has provided support to coalition partners.
Requirements for the first MRC will be determined without foreknowledge of the second MRC.	This is consistent with defense guidance. It precludes reserving forces and assets for the second MRC.
The MRCs will occur in the sequence established by defense guidance published in May 1994.	Defense guidance used for TAA 2003 reversed the order of the MRCs modeled in TAA 2001.
Separation time between the two MRCs will be consistent with defense guidance.	The Army followed defense guidance.
The Army will begin the counteroffensive phase of an MRC when adequate support forces arrive in theater.	The counteroffensive in the second MRC occurs later in TAA 2003 than in the DOD wargame Nimble Dancer. Nimble Dancer did not analyze support forces in detail and initiated the counteroffensive before adequate support forces arrive.
A 15-day theater medical evacuation policy will be used.	MRCs are estimated to be high intensity and of short duration. Casualties unable to return to duty within 15 days are not expected to be needed for the war fight. By reducing the evacuation policy from 30 days to 15 days from TAA 2001 to TAA 2003, the Army was able to reduce the number of hospitals needed in theater and the related transportation and other support requirements associated with those hospitals.
TDA medical personnel will deploy to the MRCs.	In TAA 2003, active TDA medical personnel deploy to meet war-fight requirements. TDA personnel who deploy are replaced with reservists.
Presidential Selected Reserve Call-up occurs on the day U.S. forces deploy to the first MRC.	This is consistent with defense guidance.

(continued)

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**Appendix IV**  
**Key Assumptions Used in TAA 2003**

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<b>TAA 2003 assumption</b>	<b>Army rationale</b>
Theater stockage policy will be 30 days of supply.	This is consistent with current Army policy.
U.S. Army forces in Europe and the Pacific will be available to deploy to an MRC.	There is a legislative mandate to maintain overseas troop strengths of 65,000 and 26,000 forces in Europe and the Pacific, respectively. Forces which deploy to an MRC may be replaced with reserve forces based in the United States.
Adversaries will not use nuclear or biological weapons and will use a limited amount of chemical weapons.	This is consistent with defense guidance. An excursion was run in TAA 2003 in which the amount of chemical weapons was increased. Excursion results indicated additional support force requirements.
Army forces will not swing from one MRC to the other.	This is consistent with defense guidance.
All units will have a readiness rating of C-3 or better before deploying.	This is consistent with defense guidance.

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# Comments From the Department of Defense



PERSONNEL AND  
READINESS

UNDER SECRETARY OF DEFENSE  
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WASHINGTON, D.C. 20301-4000



JAN 20 1997

Mr. Richard Davis  
Director, National Security Analysis  
National Security and International Affairs Division  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Davis:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "FORCE STRUCTURE: Army Support Forces Can Meet Two-Conflict Strategy With Some Risks" dated December 23, 1996 (GAO Code 701065/OSD Case 1272). The DoD generally concurs with the report.

The Department appreciates the opportunity to comment on the draft report. The team is to be commended for quickly learning the nuances of Army force structure, and, in particular, the Total Army Analysis process. My point of contact on this matter is CDR Dave Skocik. He can be reached at 614-5133, or electronically at skocikd@pr.osd.mil.

Sincerely,

Edwin Dorn

Attachment:  
As stated



**Appendix V**  
**Comments From the Department of Defense**

GAO DRAFT REPORT, DATED DECEMBER 23, 1996  
(GAO CODE 701065/OSD CASE 1272)

“FORCE STRUCTURE: ARMY SUPPORT FORCES CAN MEET  
TWO-CONFLICT STRATEGY WITH SOME RISKS”

DEPARTMENT OF DEFENSE COMMENTS TO  
THE GAO RECOMMENDATIONS

RECOMMENDATION 1: To improve Total Army Analysis’s (TAA)’s ability to accurately project warfighting requirements and allocate the Army’s personnel resources, the GAO recommended that the Secretary of the Army reexamine key model inputs to ensure they are accurate and consistent with warfighting scenarios. (p. 12, p. 54/GAO Draft Report)

Now on p. 45.

DOD RESPONSE: CONCUR. In TAA-05, all key model inputs have been under very close examination before approval by a General Officer Study Advisory Group (prior to running models). Inputs under intense scrutiny include: allocation rules, fuel consumption (Equipment Usage Profiles), theater stockage levels, logistics planning factors, wartime executive agency requirements supporting other services, and casualty rates. All 3,000 allocation rules were subject to a rigorous review beginning with an initial scrub by TRADOC and HQDA followed by a TRADOC independent review with each proponent. Also, a detailed 100 percent examination was conducted by a team of consultants with Organizational Integrators prior to review by a Council of Colonels. Finally, the revised rules were presented to a General Officer Study Advisory Group for final approval. Additionally, major studies were conducted to refine POL consumption factors and casualty rates.

RECOMMENDATION 2: To improve TAA’s ability to accurately project warfighting requirements and allocate the Army’s personnel resources, the GAO recommended that the Secretary of the Army perform analysis to determine how multiple Operations Other Than War (OOTW) support force requirements might differ from support force requirements based on two MRCs and bring any variances to the attention of the Secretary of Defense so that he can consider them in developing defense guidance. (pp. 12-13, p. 55/GAO Draft Report)

Now on p. 45.

DOD RESPONSE: CONCUR. This recommendation is already being implemented in TAA-05 and as part of the ongoing Quadrennial Defense Review (QDR). In TAA-03, the Army modeled all four of the OOTW scenarios in the Defense Planning Guidance (DPG) and a cursory analysis of the differences between requirements for multiple OOTWs and near-simultaneous MRCs was done. However, to achieve its objective of determining the force structure baseline for the Program Objectives Memorandum (POM), TAA-03 focused on the specific issue posed by the DPG: having the capability to execute either two near-simultaneous MRCs or a significant Peace Enforcement operation followed by a Major Regional Conflict (MRC), *whichever is larger*. Concur with GAO finding that the assumptions used in TAA-03 that made all units involved in OOTW immediately available for the warfight is flawed and overly optimistic.

Now on p. 45.

**RECOMMENDATION 3:** To improve TAA's ability to accurately project warfighting requirements and allocate the Army's personnel resources, the GAO recommended that the Secretary of the Army perform sensitivity analyses on significant model inputs, assumptions, and resourcing decisions to determine their impacts on warfighting risk. For example, although the Army used assumptions established by defense guidance, determining the implication of less favorable conditions, such as delayed call-up of reserves, would provide the Army with additional information on which to base its assessment of risk. (pp. 12-13, p. 55/GAO Draft Report)

**DOD RESPONSE:** CONCUR. Because TAA is done to determine the force structure baseline for the POM, TAA sensitivity analyses had been done *within* the parameters of the Defense Planning Guidance (DPG). In TAA-05 the General Officer Study Advisory Group directed the conduct of sensitivity analyses and excursions to the basecase scenario using DPG scenarios as well as excursions directed by Army leadership. Sensitivity analyses will be conducted on early counter-offensive options and impacts of MRC-W force enhancers on deployment arrivals. Similarly, excursions such as adverse chemical and sea lines of communication (SLOC) closure scenarios will be used in assessing risk. Also, model inputs such as theater stockage levels, logistics planning factors, "smoothing" impacts and wartime executive agency requirements are being thoroughly analyzed. All of those analyses and excursions will serve to provide the Army greater insights into risk, impacts of technology, and essentiality of enablers.

Now on p. 45.

**RECOMMENDATION 4:** To improve TAA's ability to accurately project warfighting requirements and allocate the Army's personnel resources, the GAO recommended that the Secretary of the Army rerun TAA models with the required force to assess the impact on risk of decisions made during the resourcing phase. (pp. 12-13, p. 54/GAO Draft Report)

**DOD RESPONSE:** CONCUR. The TAA-05 General Officer Study Advisory Group has directed that we rerun TAA models with the required force to assess impacts associated with the force flow and arrival times which will impact on the campaign. This will provide the level of detail needed to conduct further analysis of risk.

Now on p. 45.

**RECOMMENDATION 5:** To improve TAA's ability to accurately project warfighting requirements and allocate the Army's personnel resources, the GAO recommended that the Secretary of the Army determine how support units resident within the eight National Guard Divisions, TDA military personnel, contractor personnel, and DOD civilians can be used to fill some support force requirements. (pp. 12-13, p. 54/GAO Draft Report)

**ARMY RESPONSE:** PARTIALLY CONCUR. An in-depth analysis of the concept of using Army National Guard Divisional assets to fill non-divisional CS/CSS shortfalls has been accomplished. Several divisional assets can be applied against Army requirements. Shortages of aviation assets at echelons above division (e.g., attack aircraft) can be filled by Guard divisional attack battalions. In this case the capabilities are nearly a match. The process of using Guard divisional structure which does not match capabilities *required* creates more difficulties than it solves. For instance, a Guard Forward Support Battalion has a mission similar to a Corps Support Battalion but is dissimilar in capabilities (skills and equipment). Mismatched equipment

and personnel skills prevents much of the capabilities in ARNG divisions from being applied against non-divisional warfighting requirements. In most cases, these divisional support units simply do not have the required capabilities.

Nonconcur with the use of contractor personnel to fill support requirements in the TAA process. The Logistics Civilian Augmentation Program (LOGCAP) contract is currently written for one year, with four option years. Since TAA's purpose is to program outyear force structure, it should not offset force structure with a program which is not funded in the outyears of the POM. Another issue is that the U.S. government agrees to provide for the security of LOGCAP personnel. Thus, while LOGCAP has been successful in supporting Operations Other Than War after the situation has been stabilized, the U.S. government cannot guarantee a similar level of security in a MRC environment. In short, LOGCAP is not a viable force structure offset in TAA, but is viewed as a much needed augmentation -- to assist U.S. forces and enhance capabilities. The program is not funded in the outyears.

Concur with reference to better use of TDA. In the 21st century, the Army envisions a power projection force which provides support from the CONUS base. This is leading to a general blending of TDA structure with TOE. An increased commitment to peacetime engagement operations has made this clear. During ongoing Functional Army Assessment (FAA), the Army is taking a hard look at the use of TDA structure to meet both OOTW and warfighting requirements. Deployable TDA structure will become part of the Operating Force. Recent efforts have looked at MP, Medical and Intelligence branches with success in identifying TDA structure to convert to TOE.

**RECOMMENDATION 6:** To improve the management and allocation of personnel resources to the institutional Army, the GAO recommended that the Secretary of the Army report to the Secretary of Defense the Army's long-standing problem of workload-based analysis as a material weakness under the Financial Managers' Financial Integrity Act to maintain visibility of the issue and ensure action is taken. (p. 12-13, p. 55/GAO Draft Report)

**DOD RESPONSE:** CONCUR. Given this material weakness, the Army is taking action to establish and improve the process. The Army will look at relationships and potential of new workload-based management tools in the QDR process. ASA(M&RA) is conducting pilot testing of an automated system which will allocate TDA positions based on workload. However, workload-based analysis is only part of the solution. Because of a general blending of TOE/TDA, there is a need to develop a sound basis or justification for the TDA force. This is the first step in developing allocation rules (translating doctrine into force structure) just as we do for the TOE force.

**RECOMMENDATION 7:** To improve the management and allocation of personnel resources to the institutional Army, the GAO recommended that the Secretary of the Army closely monitor the military positions the Army plans to save as the result of Force XXI initiatives and have a contingency plan in place in the event that these savings do not materialize. (p. 12-13, p. 71/GAO Draft Report)

Now on p. 57.

Now on pp. 57 and 58.

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**Appendix V**  
**Comments From the Department of Defense**

DOD RESPONSE: CONCUR. The Army will use the Force XXI process to transform the Army to Army XXI. The Force XXI process is examining the Army through Functional Area Assessments for the TDA and a series of Advanced Warfighting Experiments for the TOE. In each of these areas, as savings are accrued, they are reinvested to reduce a significant Army force structure shortfall generated by selectively reducing unit Authorized Levels of Organization (ALO). To date, 2K spaces have been harvested from Institutional Army efficiencies and applied against requirements in the Operating Force. While it is too soon to speculate on size of future savings, plans call for applying savings against our existing ALO shortfall.

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